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TM 9-2200

WAR DEPARTMENT TECHNICAL MANUAL

Small Arms, Light Field Mortars

and

20-mm Aircraft Guns

WAR DEPARTMENT, 11 OCTOBER 1943

★ RESTRICTED

★ *Dissemination of restricted matter.—The information contained in restricted documents and the essential characteristics of restricted materiel may be given to any person known to be in the service of the United States and to persons of undoubted loyalty and discretion who are cooperating in Government work, but will not be communicated to the public or to the press except by authorized military public relations agencies. (See also par. 18 b, AR 380-5, 28 Sep 1942.)*

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* *This manual supersedes TM 9-2200, dated 12 June 1942.*

WAR DEPARTMENT
Washington 25, D. C., 4 October 1943

TM 9-2200, Small Arms, Light Field Mortars and 20-mm Aircraft Guns, is published for the information and guidance of all concerned.

[A.G. 300.7 (28 Aug 43)
O.O. 461/2775 Raritan Arsenal (R) (11 Oct 43)]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:
J. A. ULIO,
Major General,
The Adjutant General.

DISTRIBUTION: C and H 9(4).

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Section I

INTRODUCTION

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1. PURPOSE.

a. This Technical Manual is published for the information and guidance of all concerned.

2. SCOPE.

a. This manual is a compilation of the outstanding numerical data of the weapons, mounts, ammunition, and miscellaneous equipment which come under the jurisdiction of the Small Arms branches of the Ordnance Department.

(1) The essential averages of weights and measurements are given for each piece of equipment to the last significant figure. In addition, ballistic data and important characteristics are included in the tabulations. Types of ammunition used with each weapon are given in section II. The muzzle velòcities of the ammunition are given in section VI.

(2) Detailed descriptions of the items of equipment or their functioning are not within the scope of this manual. In most instances such information is available in other War Department publications. Proper references are made in section VIII to sources, of such information.

b. This manual also contains engineering data considered to be of general interest. Explanations of the formulas used are provided where necessary.

c. Suggestions regarding changes or additional data should be forwarded through proper channels to the office of the Chief of Ordnance. Such action is encouraged in order that a succeeding edition may be as complete and accurate as possible.

3. DEFINITION OF TECHNICAL TERMS.

a. A few of the tabulated items may require a short definition to insure their proper meaning.

INTRODUCTION

(1) SEAR RELEASE. This refers to the pressure applied to the sear which is necessary to release the firing pin (machine guns only).

(2) COMMAND. This is the distance the bore of a weapon (zero elevation) is raised above the surrounding terrain.

(3) BASE OF BULLET TO ORIGIN OF RIFLING. This figure when added to the length of rifling gives total travel of the bullet in the bore.

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

Section II

WEAPONS

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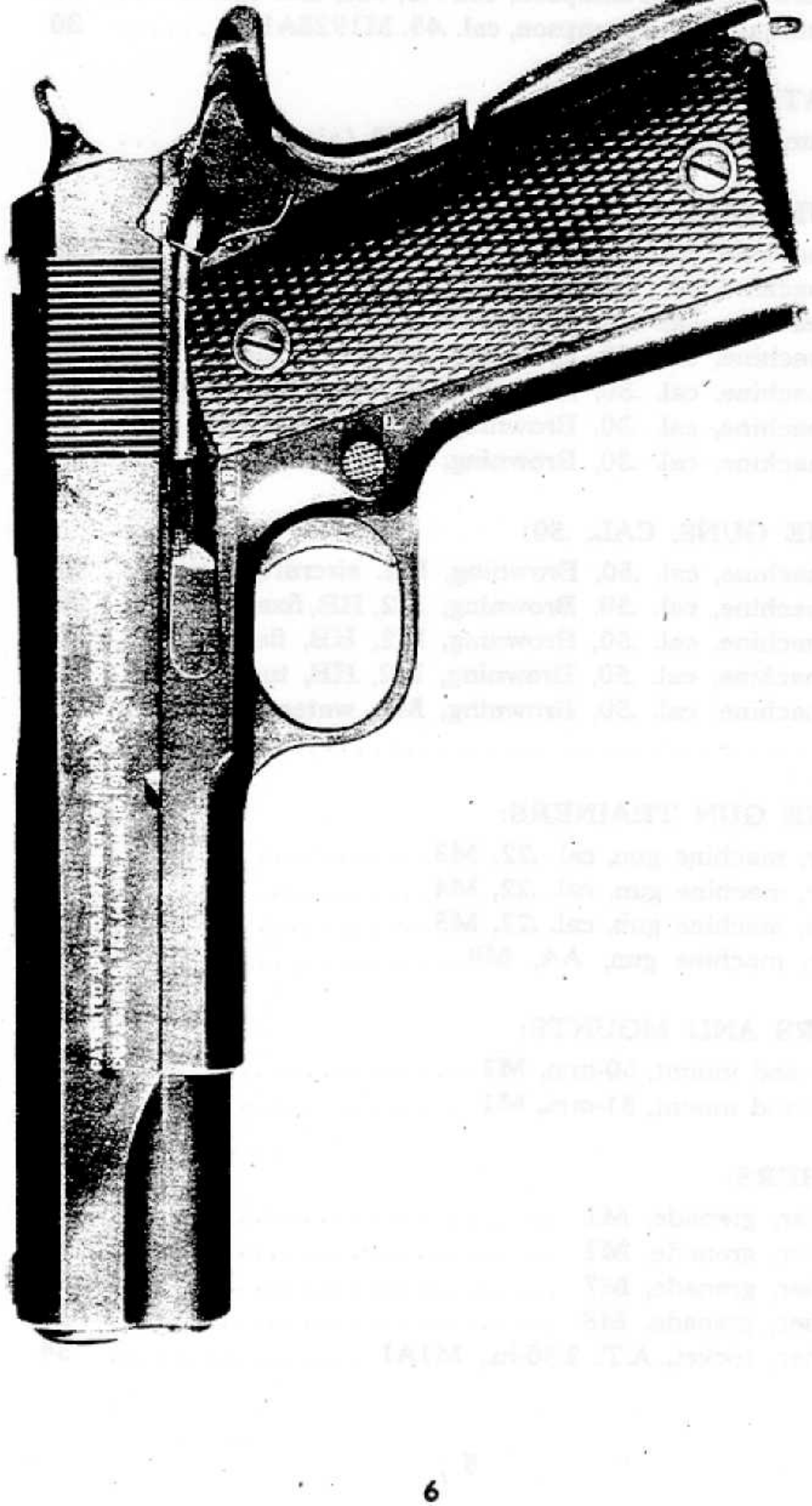
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RA PD 69789

Figure 1—Pistol, Automatic, Cal. .45, M1911A1

WEAPONS

4. PISTOL, AUTOMATIC, CAL. .45, M1911A1.

Weight	2.44 lb
Length (over-all)	8.6 in.
Weight of recoiling parts	1.12 lb
Weight of barrel	0.20 lb
Length of barrel	5.03 in.
Length of rifling	9.2 cal; 4.08 in.
Rifling:	
Number of grooves	6
Left-hand twist: 1 turn in	36 cal; 16 in.
Depth of grooves	0.0039 in.
Cross-sectional area of bore	0.1581 sq in.
Type of mechanism	Short recoil
Feeding device	Magazine
Capacity of feeding device	7 rounds
Cooling system	Air
Sight radius	6.5 in.
Trigger pull	6.5 lb max; 5.5 lb min
Ammunition type	Ball

References

SNL B-6
Drawing No. 42-8
Specification No. 52-3-1B
FM 23-35
TM 9-1295

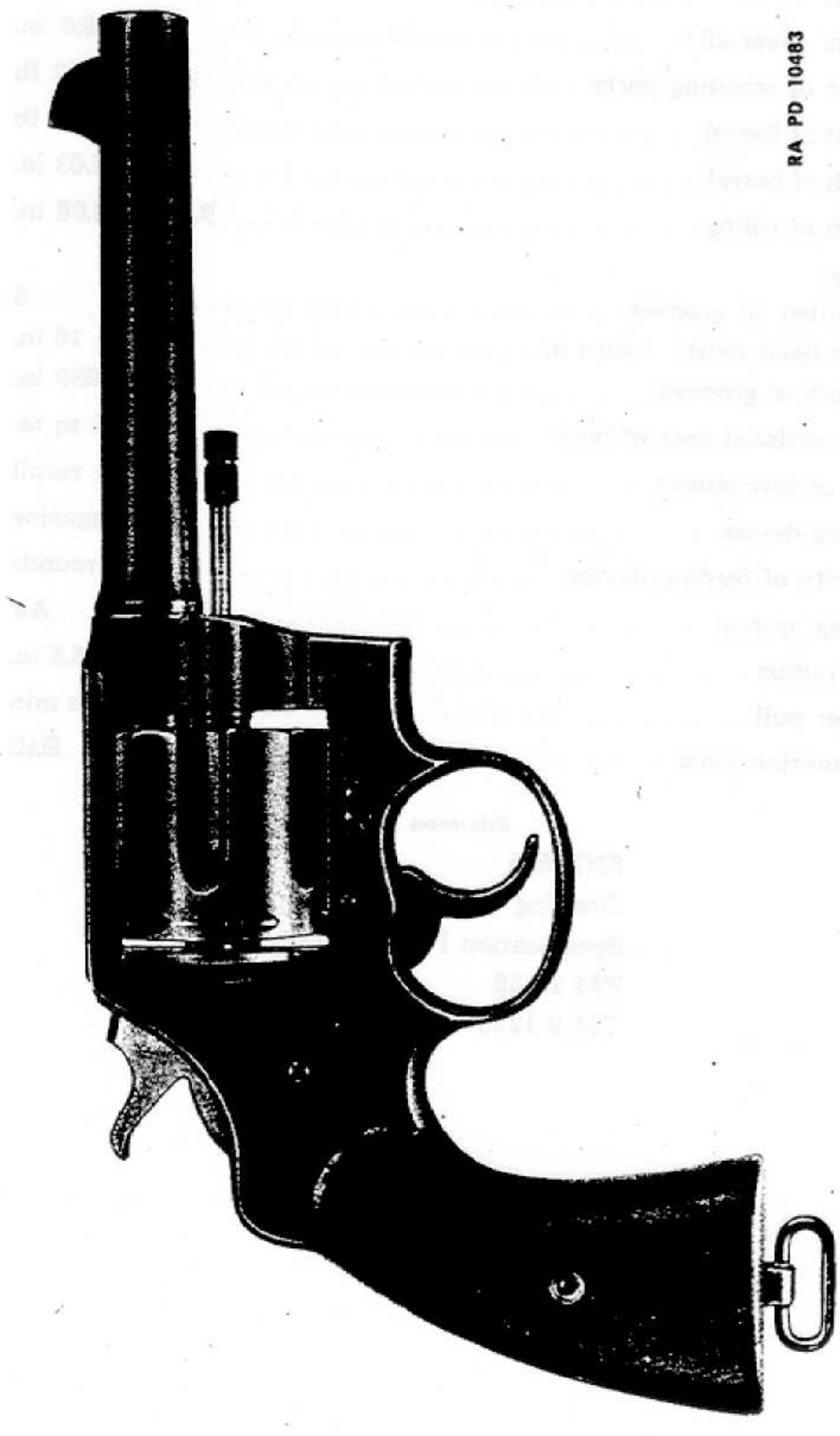


Figure 2—Revolver, Colt, Cal. .45, M1917

5. REVOLVER, COLT, CAL. .45, M1917.

Weight	2.5 lb
Length (over-all)	10.8 in.
Barrel:	
Length	5.5 in.
Diameter of bore	0.445 in.
Diameter of rifling	0.452 in.
Rifling:	
Number of grooves	6
Width of grooves	0.156 in.
Depth of grooves	0.0035 in.
Twist: 1 turn in	16 in.
Lands, width	0.073 in.
Cylinder	
Length	1.595 in.
Diameter	1.695 in.
Chambers	6
Diameter of chambers	0.4795 in. max; 0.473 in. min
Front sight above axis of bore	0.732 in.
Trigger pull	5 to 6.5 lb
Ammunition type	Ball

References

SNL B-7
Drawing No. 42-11-1
Specification No. 52-3-10
FM 23-36
TM 9-1295



RA PD 2512

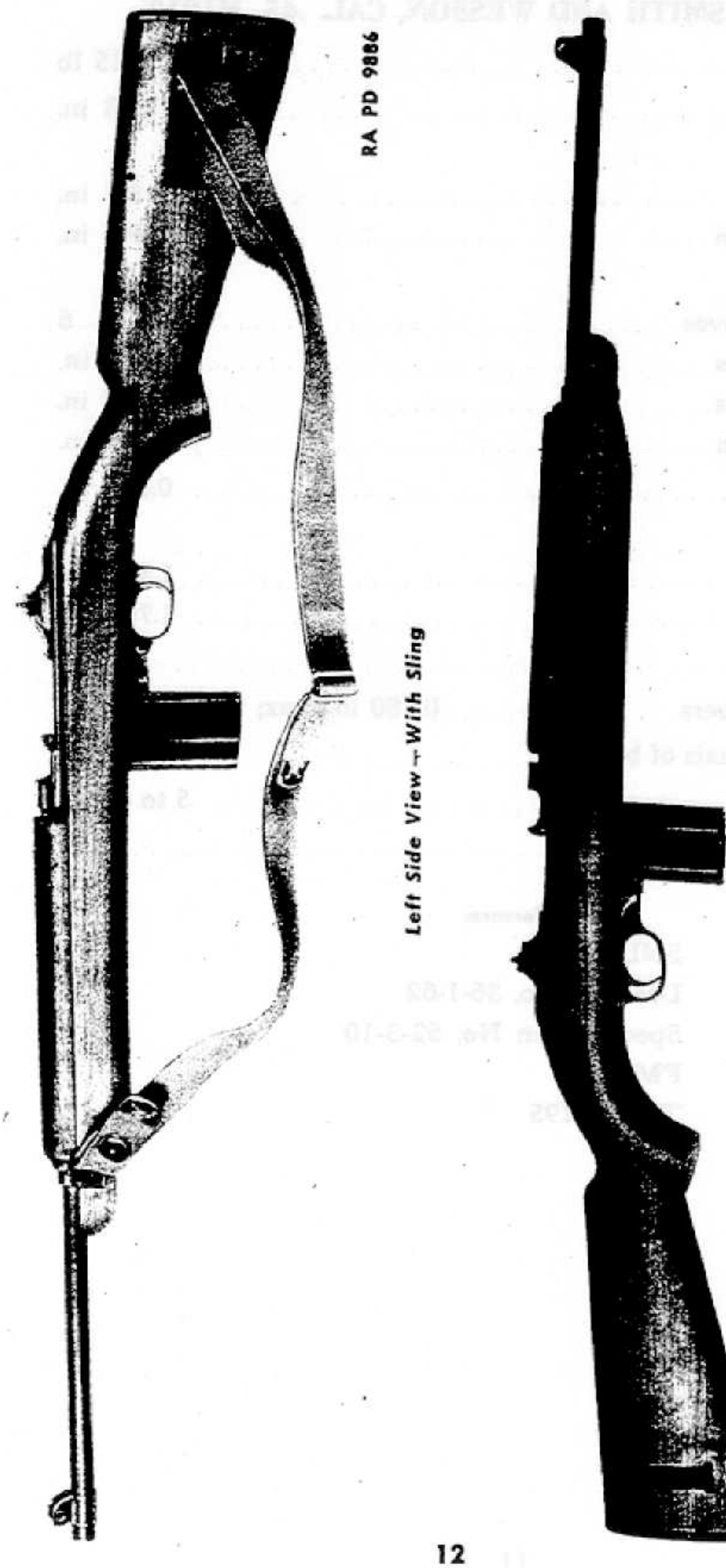
Figure 3—Revolver, Smith & Wesson, Cal. .45, M1917—Left Side View

6. REVOLVER, SMITH AND WESSON, CAL. .45, M1917.

Weight	2.25 lb
Length (over-all)	10.8 in.
Barrel:	
Length	5.5 in.
Diameter of bore	0.445 in.
Rifling:	
Number of grooves	6
Width of grooves	0.157 in.
Depth of grooves	0.003 in.
Twist: 1 turn in	14.66 in.
Lands, width	0.075 in.
Cylinder	
Length	1.537 in.
Diameter	1.708 in.
Chambers	6
Diameter of chambers	0.480 in. max; 0.4795 in. min
Front sight above axis of bore	0.794 in.
Trigger pull	5 to 6.5 lb
Ammunition type	Ball

References

SNL B-7
Drawing No. 36-1-62
Specification No. 52-3-10
FM 23-36
TM 9-1295



RA PD 9886

Left Side View—With Sling

RA PD 9885

Right Side View

Figure 4—Carbine, Cal. .30, M1

7. CARBINE, CAL. .30, M1.

Weight	5.2 lb
Length (over-all)	35.6 in.
Length of barrel	18 in.
Length of rifling	55.7 cal; 16.77 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	66.6 cal; 20 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Gas-operated; semiautomatic
Feeding device	Magazine
Capacity of feeding device	15 rounds
Rate of fire	Semiautomatic
Cooling	Air
Sight	L-type or adjustable rear type
Sight radius	21.4 in.
Trigger pull	6 lb max; 4 lb min
Ammunition type	Ball

NOTE: The L-type sight has ranges of 100 and 300 yards only, and has no adjustments for windage. The adjustable rear sight has ranges from 100 to 300 yards in increments of 50 yards, and can be corrected for windage.

References

SNL B-28
Drawing No. 42-36
Specification No. AXS-639
FM 23-7
TM 9-1276

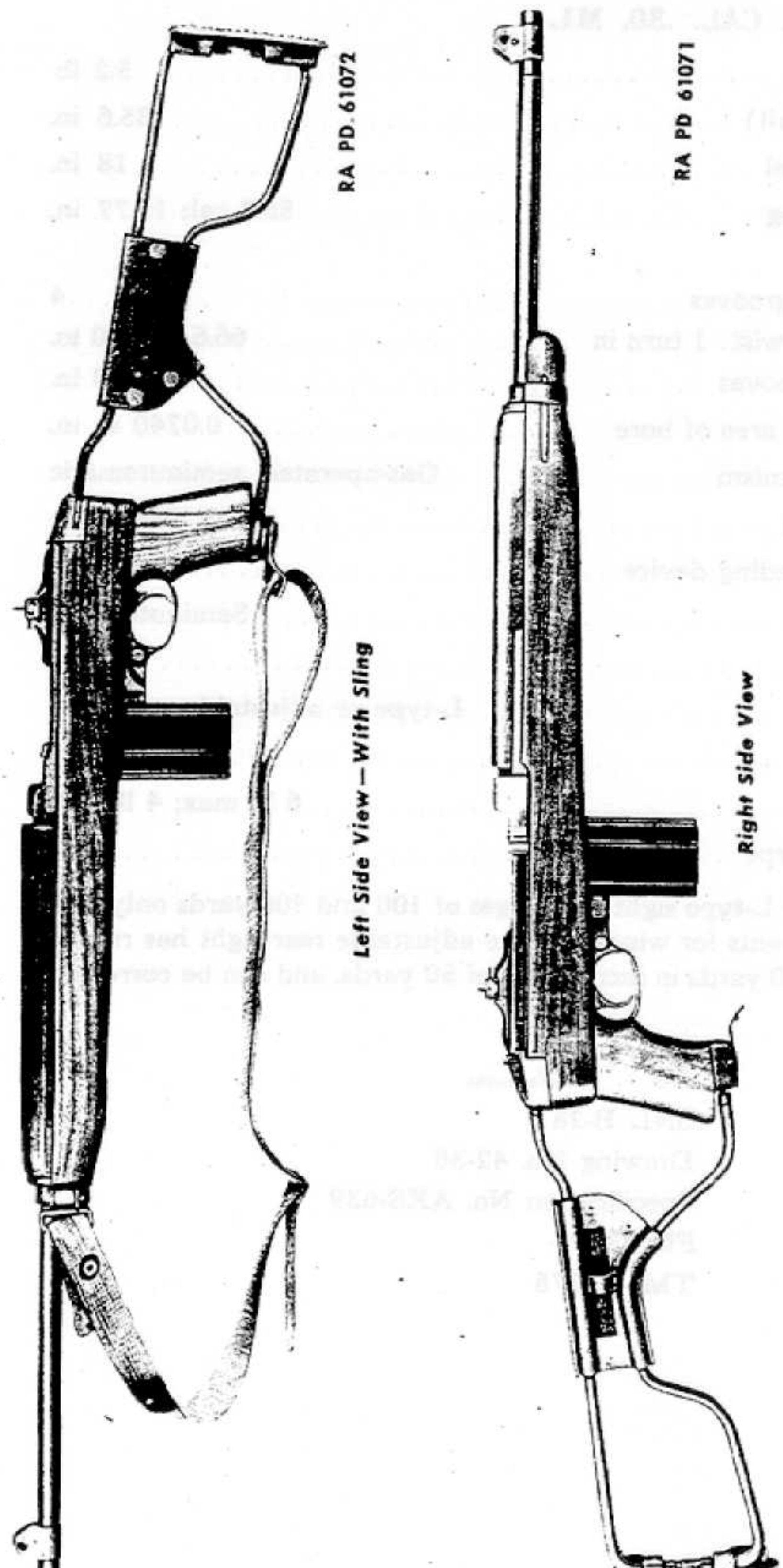


Figure 5—Carbine, Cal. .30, M1A1

8. CARBINE, CAL. .30, M1A1.

Weight with sling	5.4 lb
Length (over-all)	
Stock extended	35.5 in.
Stock folded	25.4 in.
Length of barrel	18 in.
Length of rifling	55.7 cal; 16.77 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	66.6 cal; 20 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Gas-operated; semiautomatic
Feeding device	Magazine
Capacity of feeding device	15 rounds
Rate of fire	Semiautomatic
Cooling system	Air
Sight	L-type or adjustable rear type
Sight radius	21.4 in.
Trigger pull	6 lb max; 4 lb min
Ammunition type	Ball

NOTE: The L-type sight has ranges of 100 and 300 yards only, and has no adjustments for windage. The adjustable rear sight has ranges from 100 to 300 yards in increments of 50 yards, and can be corrected for windage.

References

SNL B-28
Drawing No. 42-41-1
Specification No. AXS-639 Rev. 6

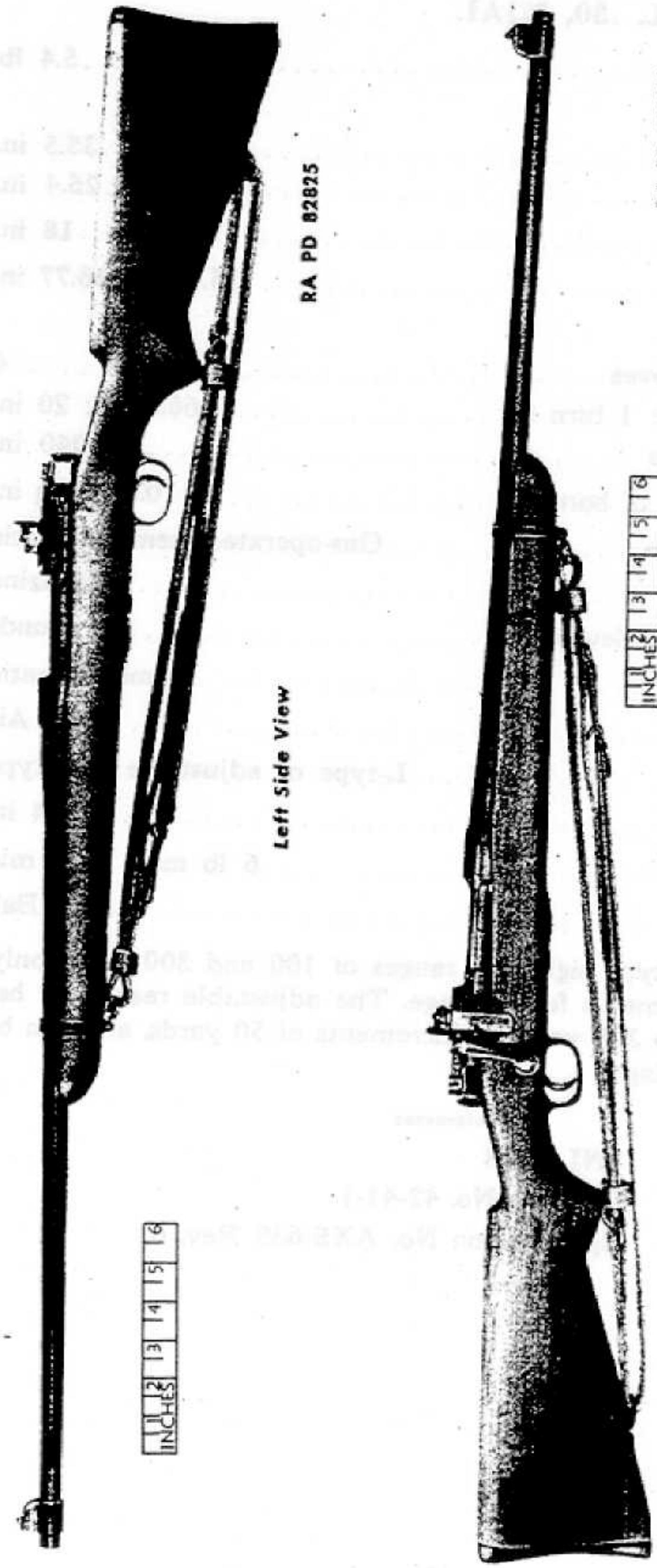


Figure 6—Rifle, U. S. Cal. .22, M2, With Sling M1907

9. RIFLE, U. S., CAL. .22, M2.

Weight with sling	9.3 lb
Length (over-all)	43.7 in.
Length of barrel	24 in.
Length of rifling	107 cal; 23.35 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Magazine
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	28.4 in.
Trigger pull	5 lb max; 3.5 lb min
Ammunition type—cal. .22, long rifle (commercial)	Ball

References

SNL B-17
Drawing No. 42-23
Specification No. 52-1-22A
TM 9-280
TM 9-1280

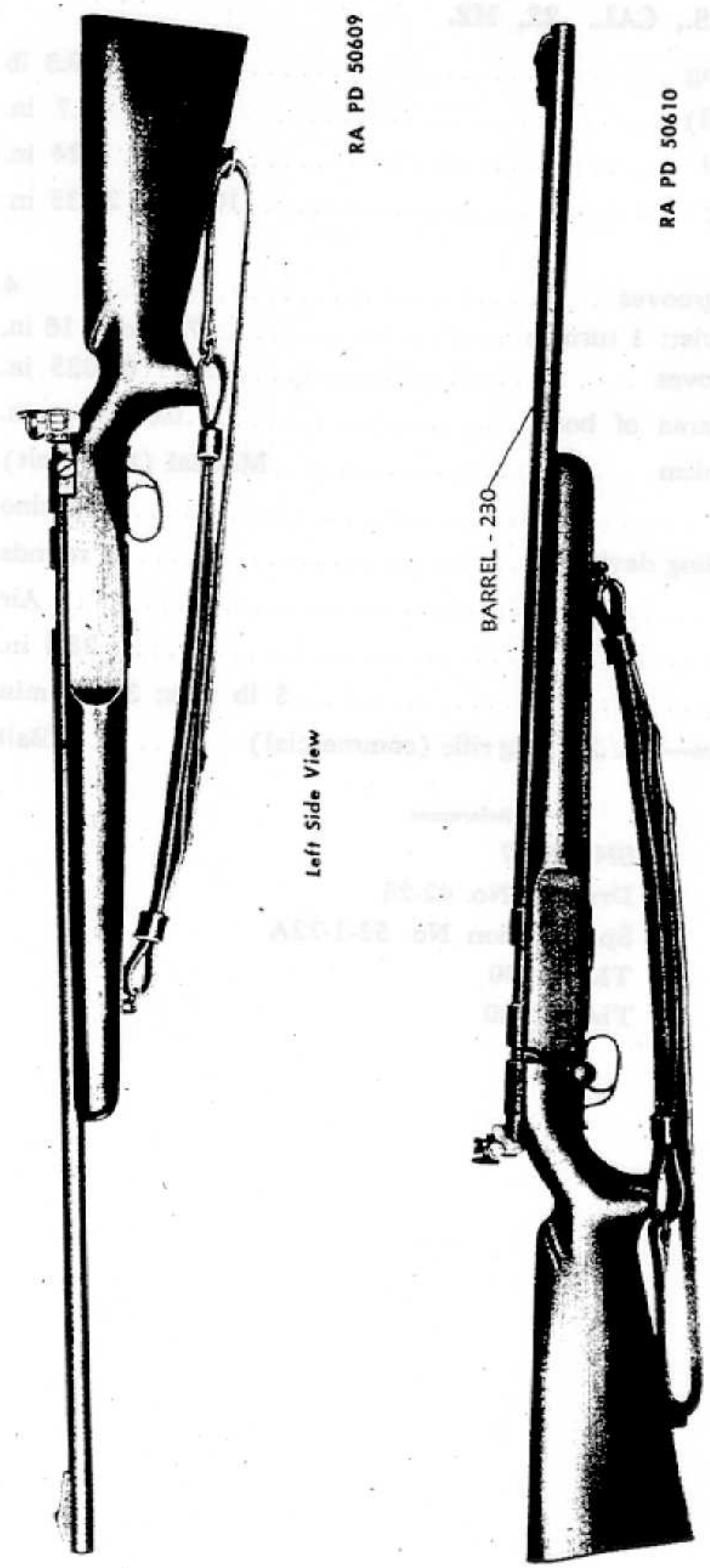


Figure 7—Rifle, Cal. .22, Remington, Model 513 Target

10. RIFLE, REMINGTON, CAL. .22, MODEL 513, TARGET.

Weight	8.2 lb
Length (over-all)	45 in.
Length of barrel	27 in.
Rifling:	
Number of grooves	6
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	6 rounds
Cooling system	Air
Sight radius	33.4 in.
Trigger pull	6 lb max; 4 lb min
Ammunition type—cal. 22, long rifle (commercial)	Ball

References

SNL B-25
Drawing No. 42-30-1
Specification No. AXS-740

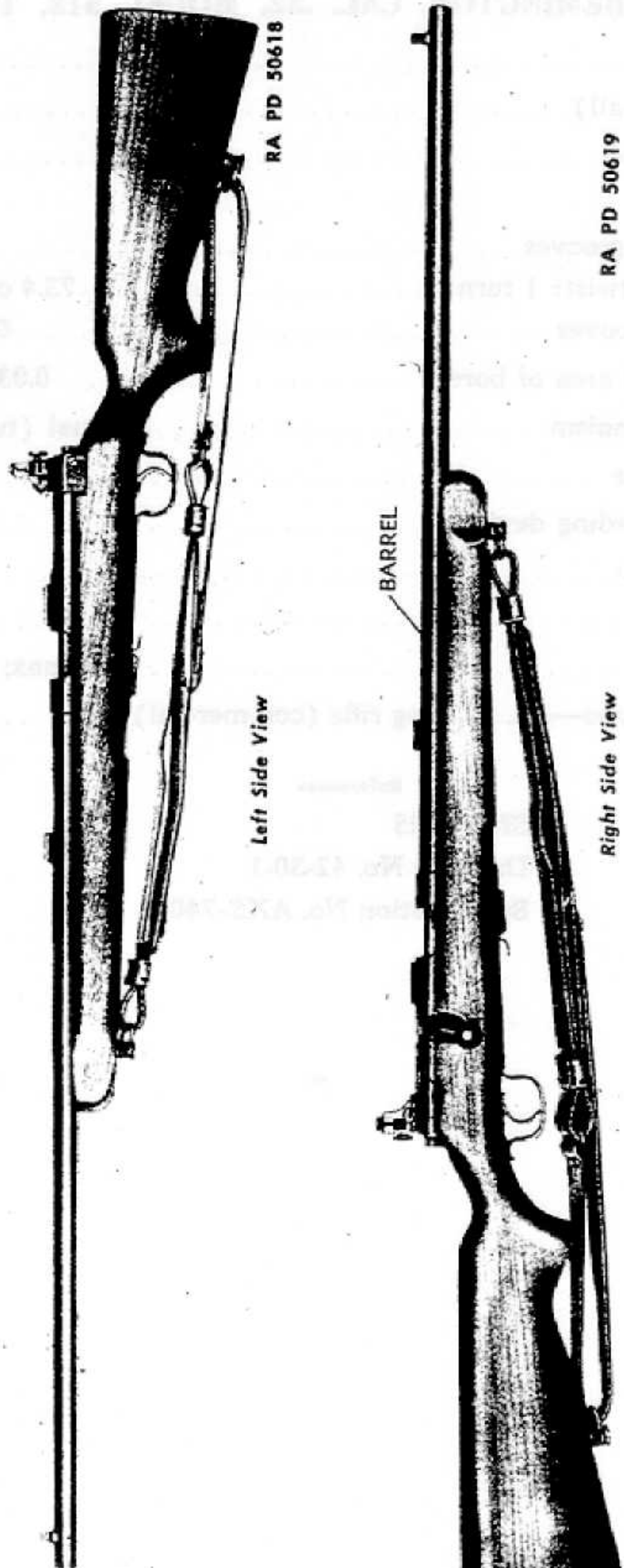


Figure 8—Rifle, Cal. .22, Stevens, Model 416-2, Target

11. RIFLE, STEVENS, CAL. .22, MODEL 416-2, TARGET.

Weight	8.7 lb
Length (over-all)	45.8 in.
Length of barrel	26.12 in.
Rifling:	
Number of grooves	6
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	32.8 in.
Trigger pull	6 lb max; 4 lb min
Ammunition type—cal. .22, long rifle (commercial)	Ball

References

SNL B-25
Drawing No. 42-28-1
Specification No. AXS-740

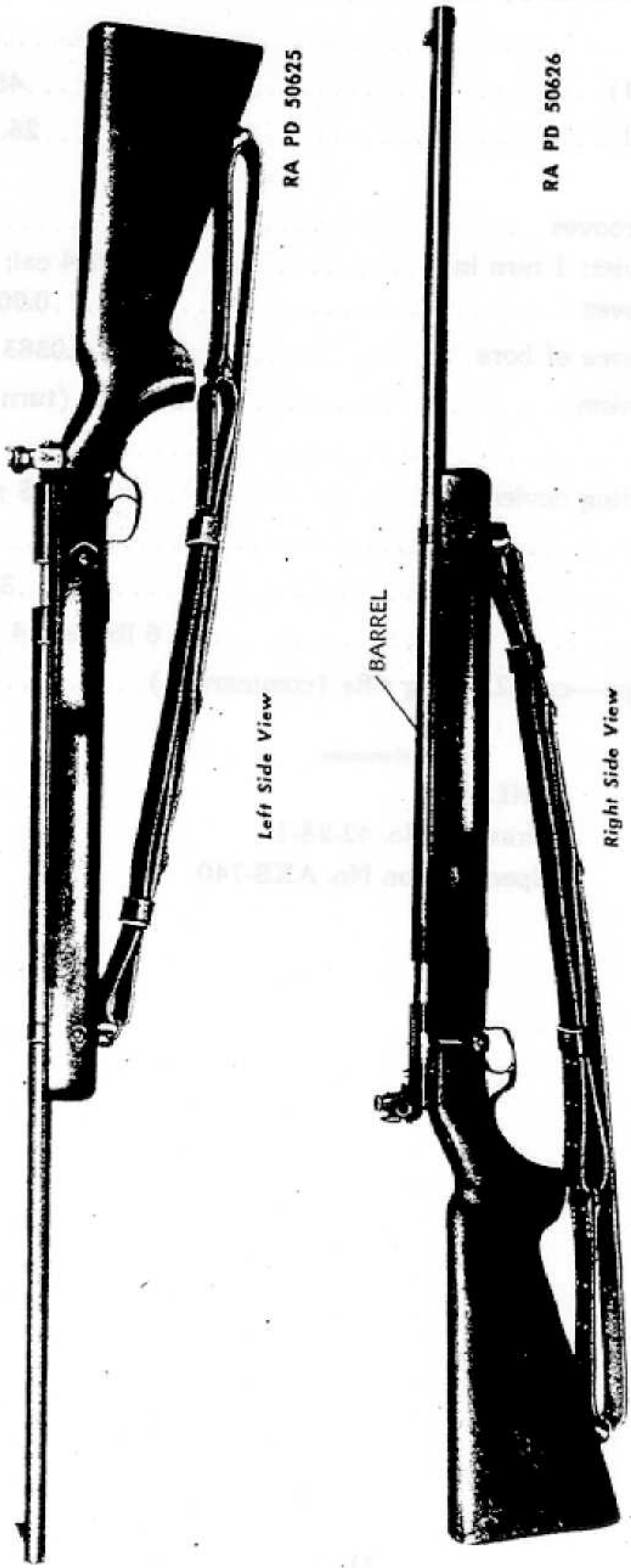


Figure 9—Rifle, Cal. .22, Winchester, Model 75, Target

12. RIFLE, WINCHESTER, CAL. .22, MODEL 75, TARGET.

Weight	7.9 lb
Length (over-all)	45 in.
Length of barrel	28.12 in.
Rifling:	
Number of grooves	6
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	32.8 in.
Trigger pull	6 lb max; 4 lb min
Ammunition type—cal. .22, long rifle (commercial)	Ball

References

SNL B-25
Drawing No. 42-29-1
Specification No. AXS-740

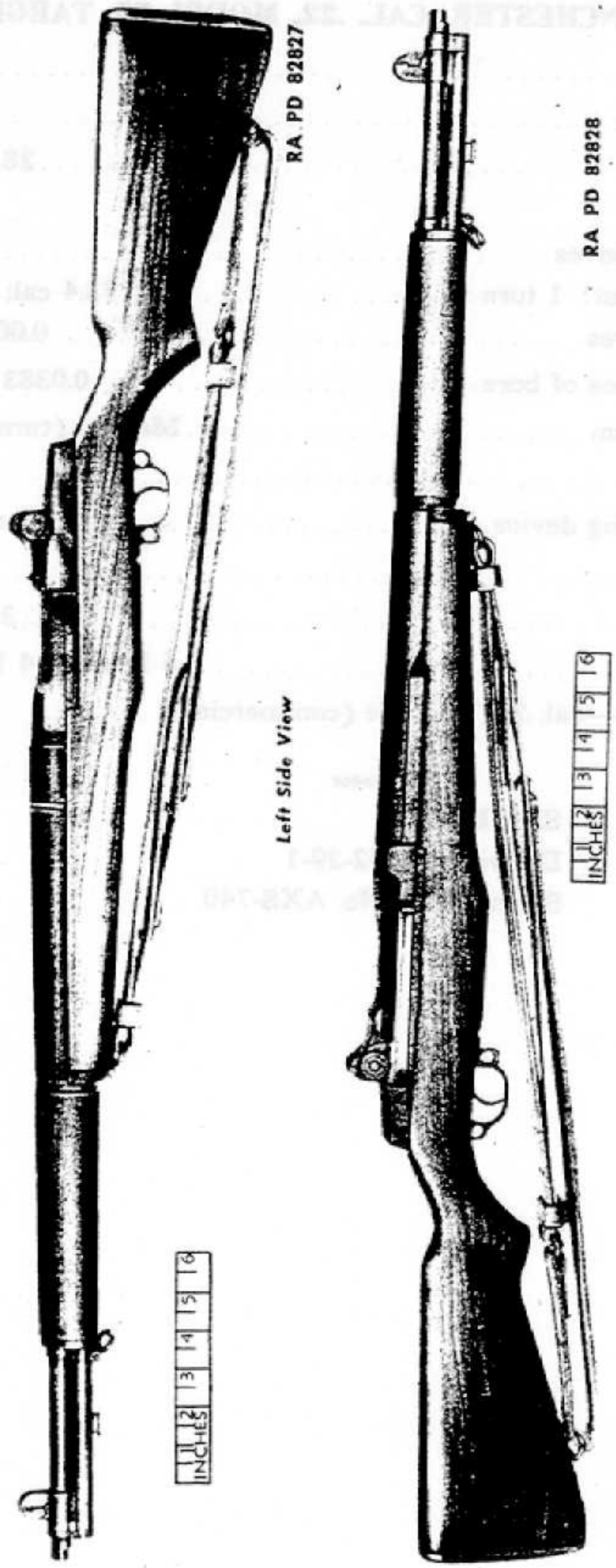


Figure 10—Rifle, U. S., Cal. .30, M1 With Sling M1907

13. RIFLE, U. S., CAL. .30, M1.

Weight with Sling M1907 (leather)	10.3 lb
Weight complete with Bayonet M1 and Sling M1907	11.2 lb
Length (over-all)	43.6 in.
Length (over-all) with Bayonet M1	53.4 in.
Length of barrel	24 in.
Length of rifling	70.8 cal; 21.30 in.
Rifling:	
Number of grooves	2 or 4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Gas-operated; semiautomatic
Feeding device	Clip
Capacity of feeding device	8 rounds
Rate of fire	Semiautomatic
Cooling system	Air
Sight radius	For 100-yd range, 27.9 in.
Trigger pull	7.5 lb max; 4.5 lb min
Ammunition types	Ball; AP; tracer

NOTE: Gun Sling M1 (web) may also be used with this rifle.

References

SNL B-21
Drawing No. 42-24
Specification No. SXS-37
FM 23-5
TM 9-1275

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

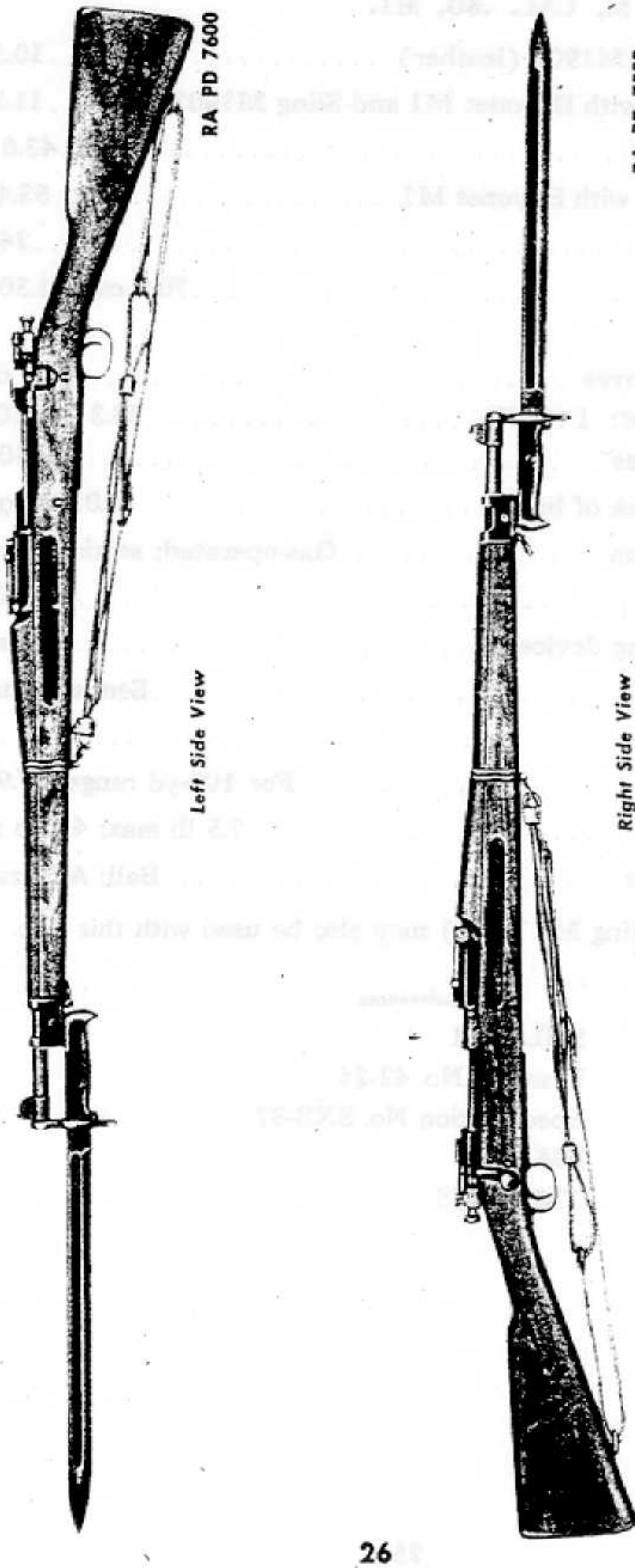


Figure 11—Rifle, U. S., Cal. .30, M1903 With Bayonet M1 and Sling M1907

WEAPONS

14. RIFLE, U. S., CAL. .30, M1903.

Weight with Sling M1907 (leather)	9 lb
Weight without sling	8.4 lb
Weight complete with Bayonet M1 and Sling M1907	9.9 lb
Length (over-all)	43.5 in.
Length (over-all) with Bayonet M1	53.3 in.
Length of barrel	24 in.
Length of rifling	70.7 cal; 21.28 in.
Rifling:	
Number of grooves	2 or 4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	21.1 in.
Sight radius battle sight	21.6 in.
Trigger pull	5 lb max; 4 lb min
Ammunition types	Ball; AP; tracer

NOTE: This rifle has a straight-type stock, which has been replaced with a pistol grip stock for the Rifle, U. S., cal. .30, M1903A1. Otherwise, the two rifles are identical. The Gun Sling M1 (web) may also be used with this rifle.

References

SNL B-3
Drawing No. 42-2
Specification No. 52-1-1
FM 23-10
TM 9-1270

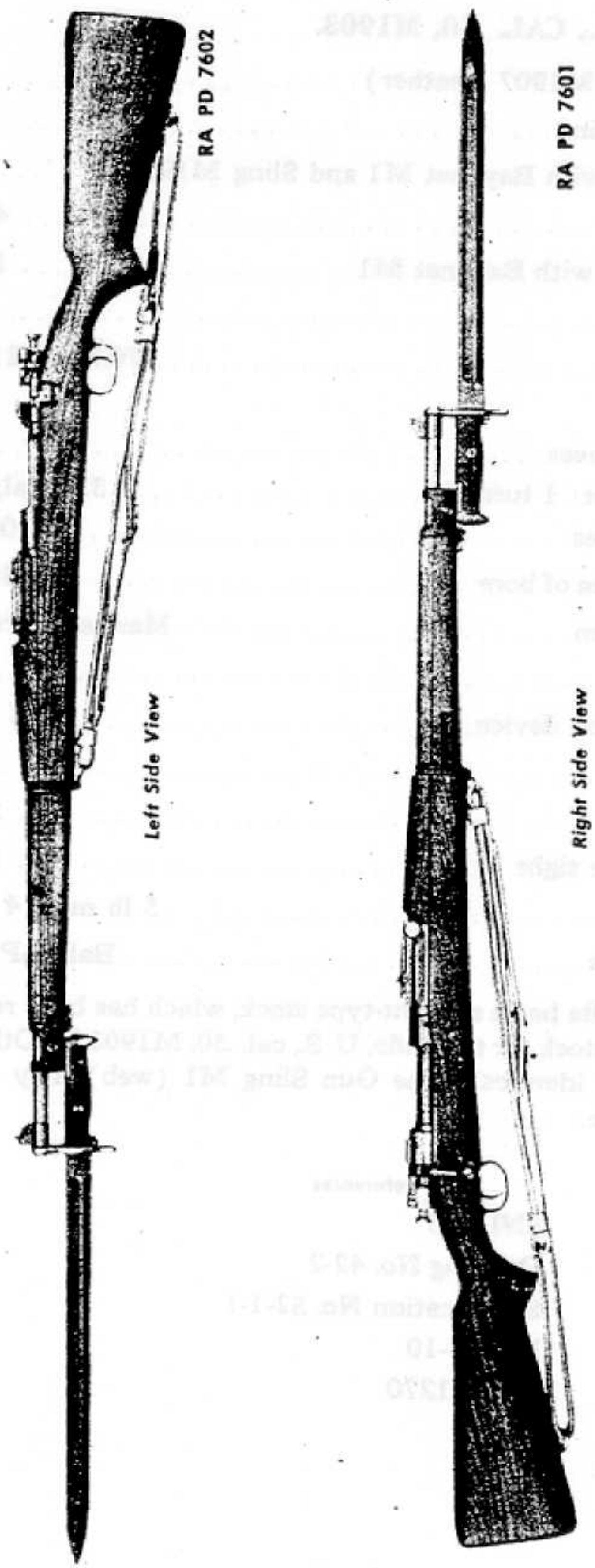


Figure 12—Rifle, U.S., Cal. .30, M1903A1 With Bayonet M1 and Sling M1907

15. RIFLE, U. S., CAL. .30, M1903A1.

Weight with Sling M1907 (leather)	9.0 lb
Weight without sling	8.4 lb
Weight complete with Bayonet M1 and Sling M1907	9.9 lb
Length (over-all)	43.5 in.
Length (over-all) with Bayonet M1	53.3 in.
Length of barrel	24 in.
Length of rifling	70.7 cal; 21.28 in.
Rifling:	
Number of grooves	2 or 4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	21.1 in.
Sight radius, battle sight	21.6 in.
Trigger pull	5 lb max; 4 lb min
Ammunition types	Ball; AP; tracer

NOTE: This rifle has a pistol grip stock and a leaf-type sight; while the Rifle, U. S., cal. .30, M1903A3, has a ramp-type sight mounted on the bridge of the receiver, and no pistol grip. Otherwise, the two rifles are identical. The Gun Sling M1 (web) may also be used with this rifle.

References

SNL B-3
Drawing No. 42-2
Specification No. 52-1-1
FM 23-10
TM 9-1270

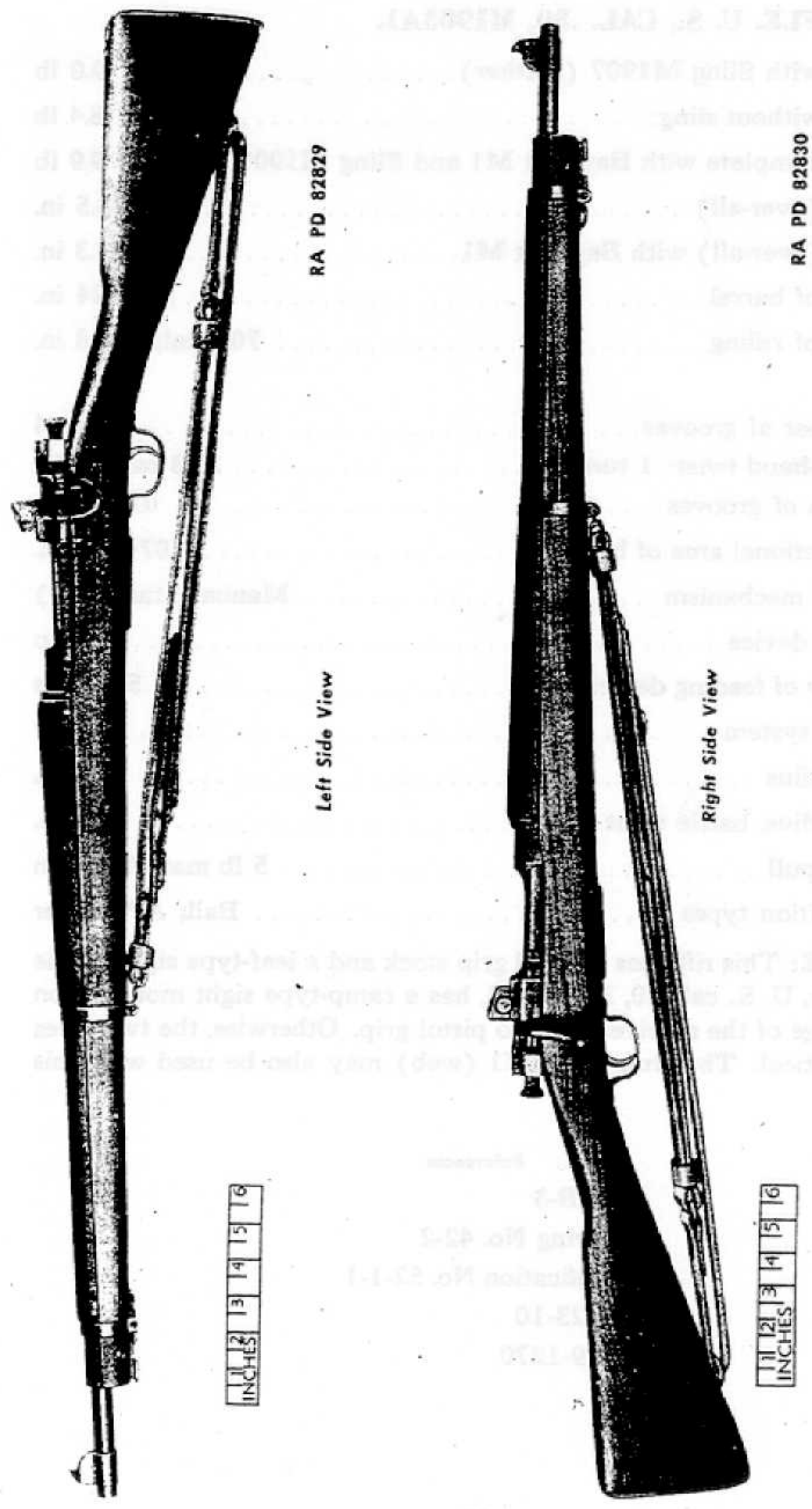


Figure 13—Rifle, U. S., Cal. .30, M1903A3 With Sling M1907

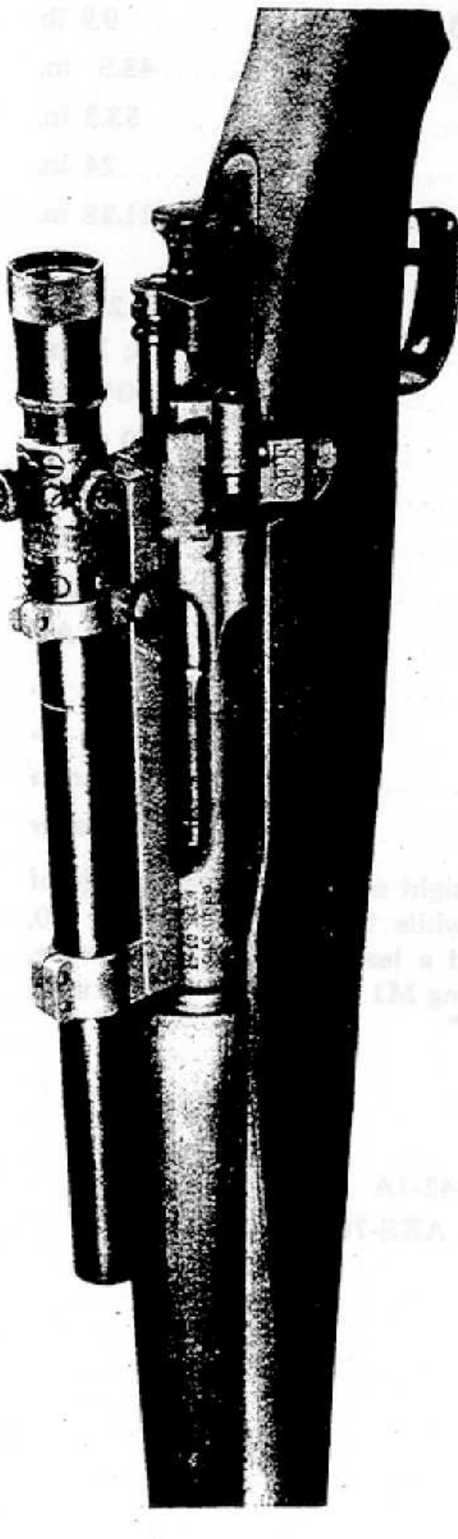
16. RIFLE, U. S., CAL. .30, M1903A3.

Weight with Sling M1907 (leather)	9.0 lb
Weight complete with Bayonet M1 and Sling M1907	9.9 lb
Length (over-all)	43.5 in.
Length (over-all) with Bayonet M1	53.3 in.
Length of barrel	24 in.
Length of rifling	70.7 cal; 21.28 in.
Rifling:	
Number of grooves	2 or 4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight radius	For 200 yd, 27.8 in.
	For 800 yd, 28.4 in.
Trigger pull	6 lb max; 4 lb min
Ammunition types	Ball; AP; tracer

NOTE: This rifle has a ramp-type sight mounted on the bridge of the receiver and has no pistol grip; while the Rifle, U. S., cal. .30, M1903A1, has a pistol grip stock and a leaf-type sight. Otherwise, the two rifles are identical. The Gun Sling M1 (web) may also be used with this rifle.

References

SNL B-3
Drawing No. 42-42-1A
Specification No. AXS-782
TM 9-1270



RA PD 69625

Figure 14—Rifle, U. S., Cal. .30, M1903A4 (Snipers) (with Weaver #330C Telescope Sight)—Left Side View



RA PD 82824

Figure 15—Rifle, U. S., Cal. .30, M1903A4 (Snipers) and Sling M1907 (with Lyman Alaskan (M73B1) Telescope Sight)—Right Side View

17. RIFLE, U. S., CAL. .30, M1903A4 (SNIPERS).

Weight with Sling M1907 (leather) (without sight)	9.2 lb
Weight with Sling M1907 (with Model 330C Weaver sight)	9.7 lb
Weight with Sling M1907 (with Lyman Alaskan sight)	9.9 lb
Length (over-all)	43.5 in.
Length of barrel	24 in.
Length of rifling	70.7 cal; 21.28 in.
Rifling:	
Number of grooves	2 or 4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5 rounds
Cooling system	Air
Sight magnification	2½ power
Eye relief	3 in. to 5 in.
Length of sight:	
Weaver sight	11.0 in.
Lyman Alaskan sight	10.9 in.
Ammunition types	Ball; AP; tracer

NOTE: This rifle has the characteristics of the Rifle, U. S., cal. .30, M1903A1, and M1903A3, modified only by the addition of the telescopic sight. The Gun Sling M1 (web) and the Bayonet M1 or M1905 may also be used with this rifle.

References

SNL B-3
Drawing No. 42-49-1A
Specification No. AXS-782
TM 9-270
TM 9-1270

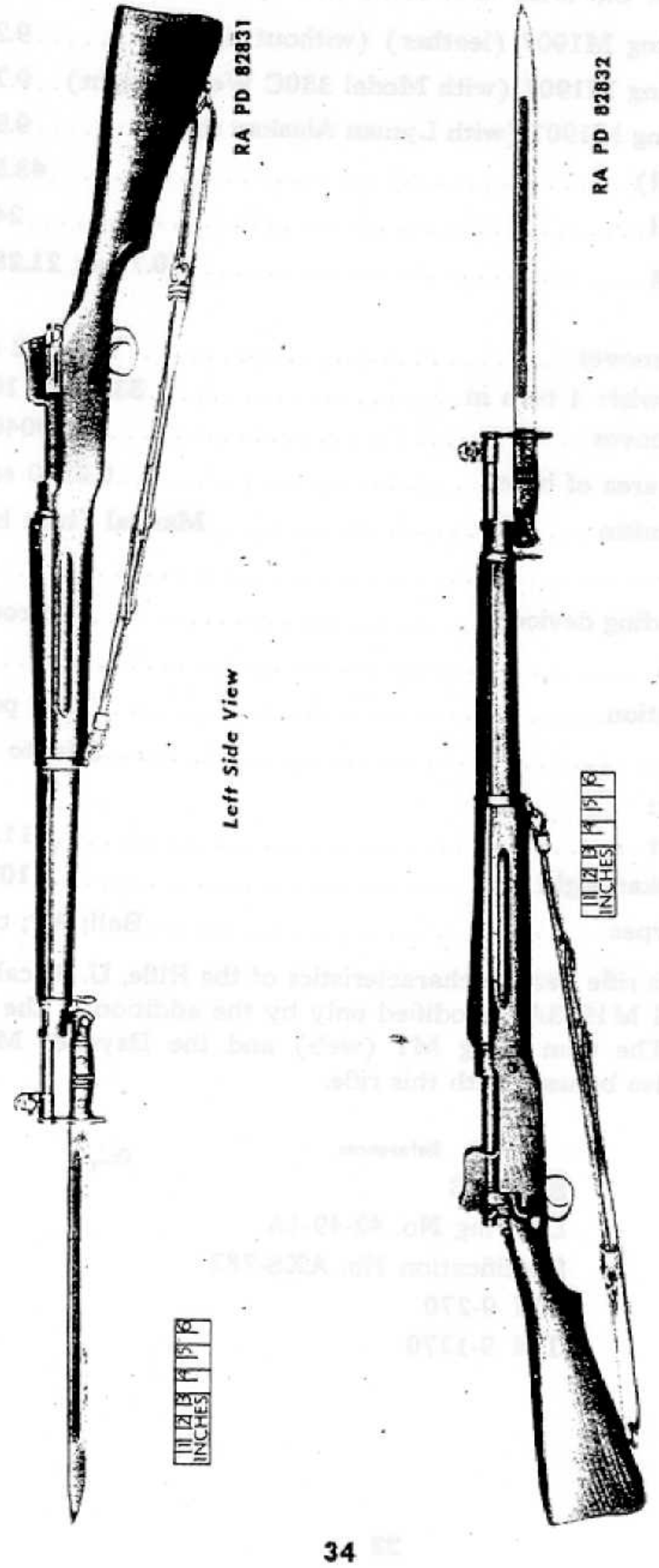


Figure 16—Rifle, U. S., Cal. .30, M1917, with Bayonet M1917 and Sling M1907

WEAPONS

18. RIFLE, U. S., CAL. .30, M1917.

Weight with Sling M1907	10.56 lb
Weight with Bayonet M1917 and Sling M1907	11.66 lb
Length (over-all)	46.3 in.
Length (over-all) with Bayonet M1917	63.4 in.
Length of barrel	26 in.
Length of rifling	23.3 in.
Rifling:	
Number of grooves	5
Left-hand twist: 1 turn in	10 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Manual (turn bolt)
Feeding device	Clip
Capacity of feeding device	5
Cooling	Air
Sight radius	31.7 in.
Trigger pull	6.5 lb max; 4.5 lb min
Ammunition types	Ball; AP; tracer

References

SNL B-4
Drawing No. 42-10
FM 23-6

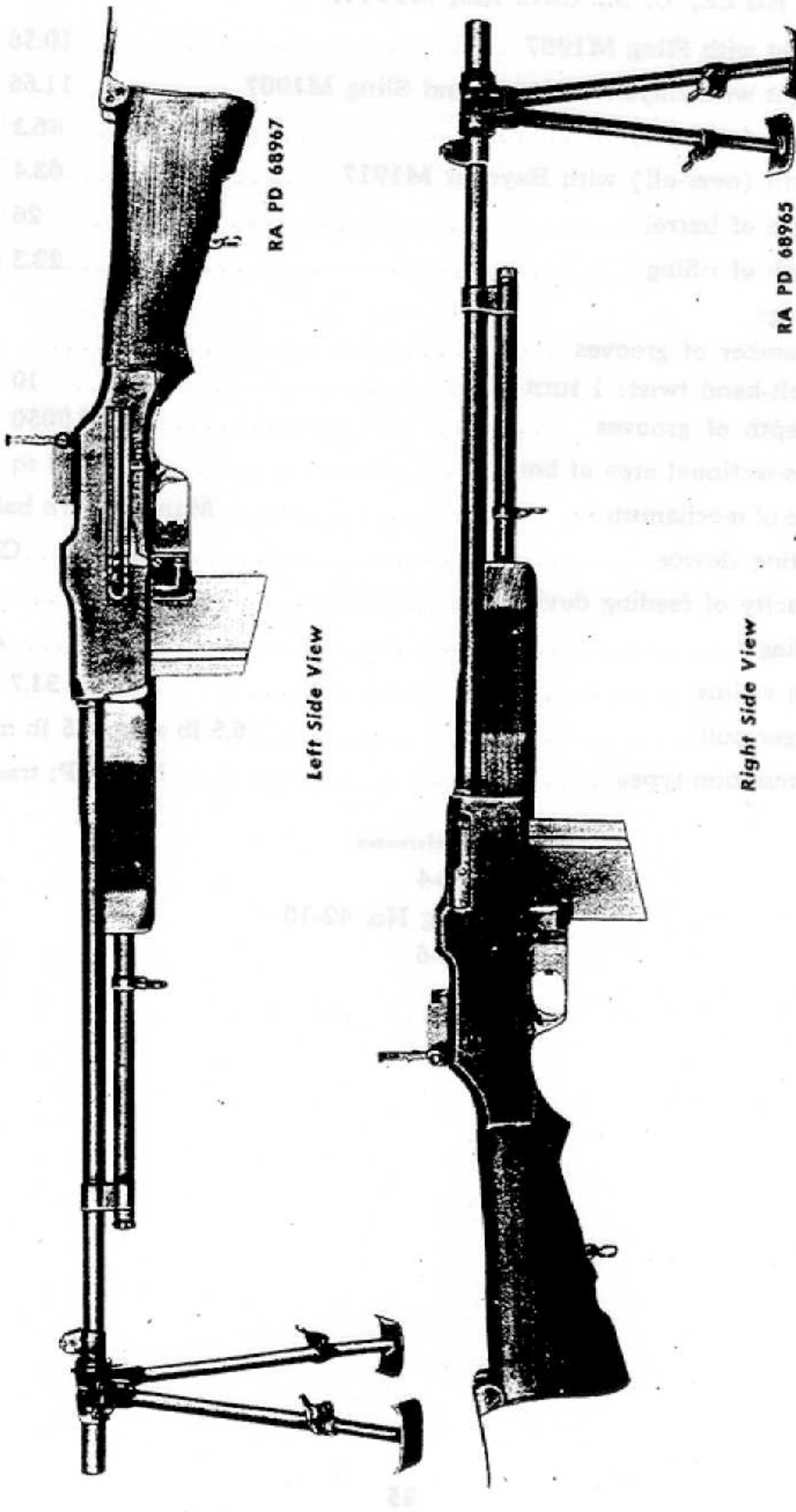


Figure 17—Rifle, Automatic, Cal. .30, Browning, M1918A2

19. RIFLE, AUTOMATIC, CAL. .30, BROWNING, M1918A2.

Weight, complete with bipod and magazine	19.4 lb
Weight, less bipod	17 lb
Weight, bipod	2.4 lb
Weight, magazine	0.5 lb
Length	47.8 in.
Weight of moving parts	2.25 lb
Weight of barrel	3.65 lb
Length of barrel	24.07 in.
Length of rifling	71.1 cal; 21.41 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Gas-operated
Feeding device	Magazine
Capacity of feeding device	20 rounds
Rate of fire	500 to 600 rounds per min (fast automatic) 300 to 350 rounds per min (slow automatic)
Cooling system	Air
Sight radius	31.1 in.
Maximum command	14.5 in.
Trigger pull	10 lb max; 6 lb min
Ammunition types	Ball; AP; tracer

References

SNL A-4
Drawing No. 51-102
Specification No. 52-2-1A
FM 23-15
FM 23-20
TM 9-1211

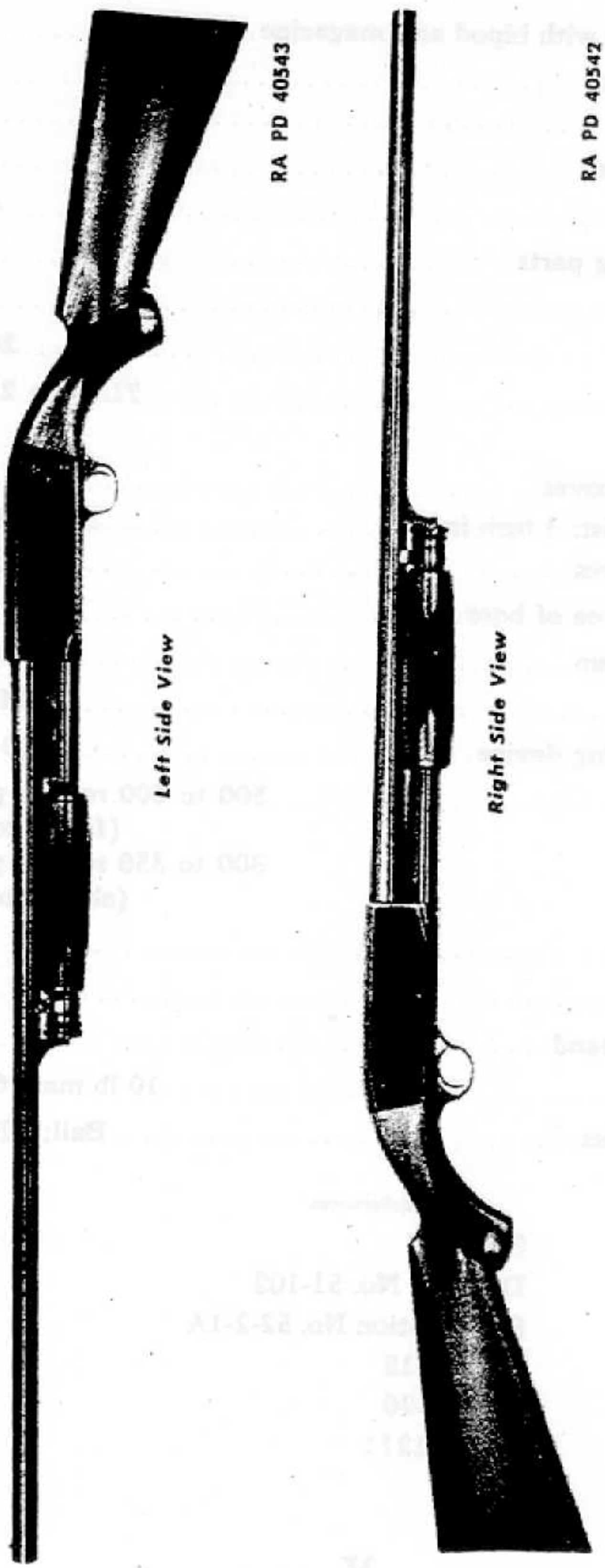


Figure 18—Shotgun, Ithaca, Model 37, 12 Gage—Trap Type

20. SHOTGUN, ITHACA, MODEL 37, 12 GAGE.

Weight with 20-in. barrel (approx.)	6 lb
Weight with 26-in. barrel (approx.)	6.2 lb
Weight with 30-in. barrel (approx.)	6.6 lb
Length (over-all) with 20-in. barrel	40 in.
Length (over-all) with 26-in. barrel	46 in.
Length (over-all) with 30-in. barrel	50 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	30 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Manual (pump)
Shell capacity	4 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285

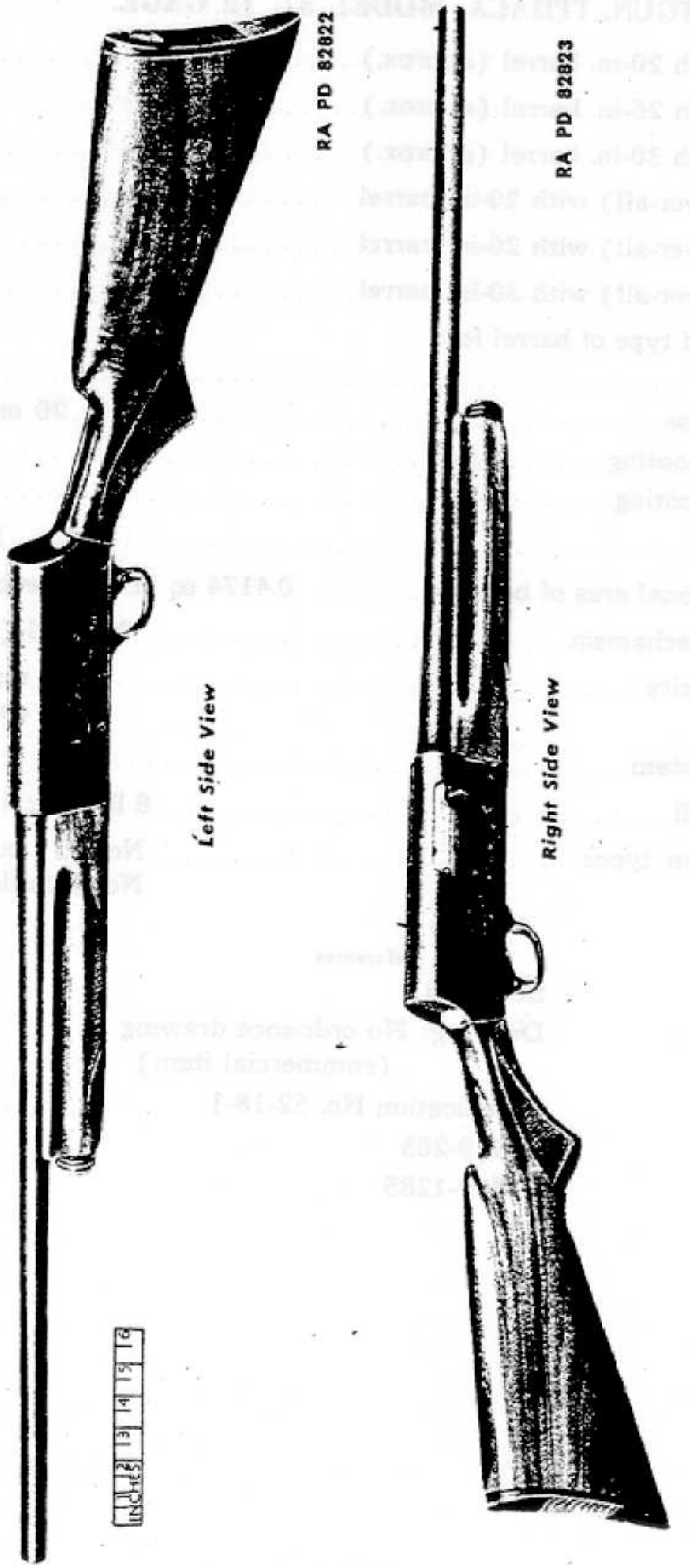


Figure 19—Shotgun, Remington, Model 11A, 12 Gage—Skeet Type

21. SHOTGUN, REMINGTON, MODEL 11A, 12 GAGE.

Weight with 20-in. barrel (approx.)	7.8 lb
Weight with 26-in. barrel (approx.)	8 lb
Weight with 28-in. barrel (approx.)	8.2 lb
Length (over-all) with 20-in. barrel	41 in.
Length (over-all) with 26-in. barrel	47 in.
Length (over-all) with 28-in. barrel	49 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	28 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Auto-loading
Shell capacity	4 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285

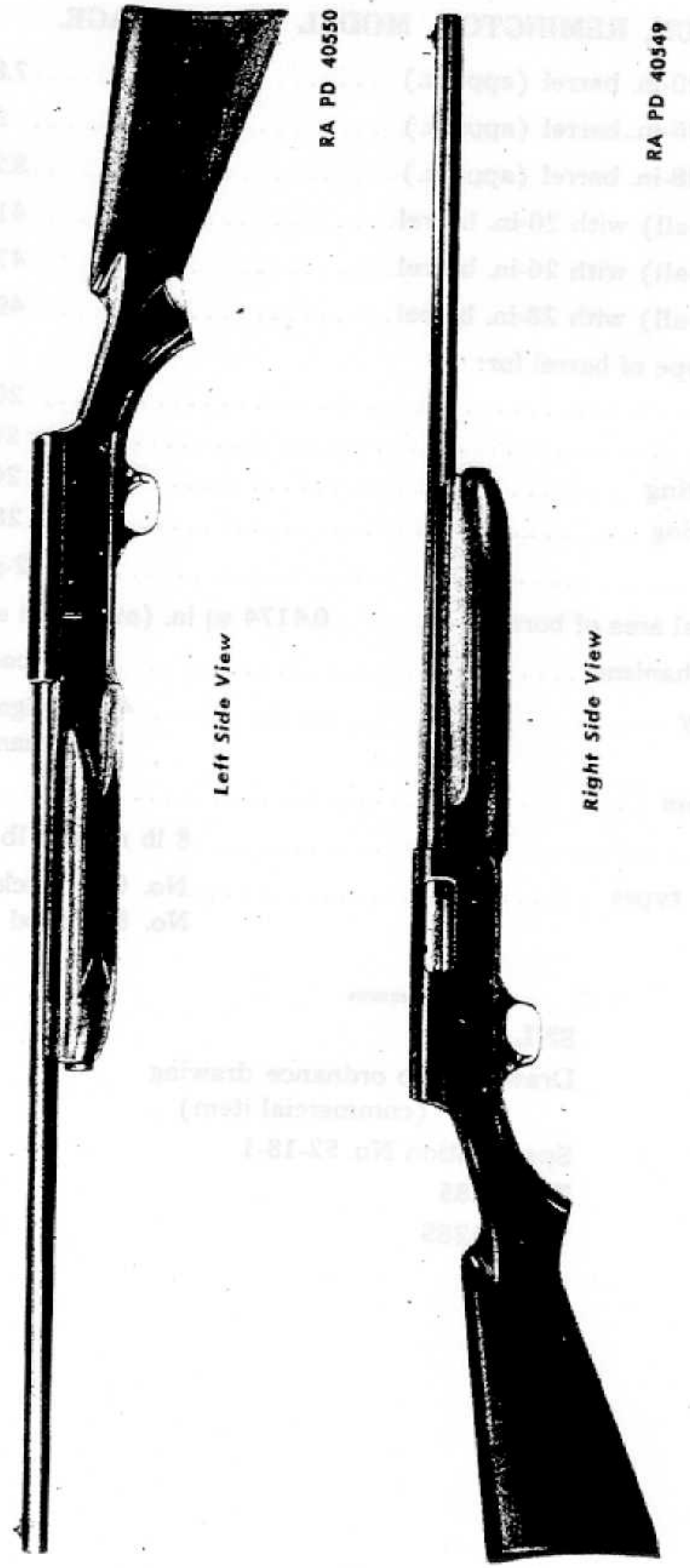


Figure 20—Shotgun, Remington Sportsman, 12 Gage

22. SHOTGUN, REMINGTON, SPORTSMAN, 12 GAGE.

Weight with 20-in. barrel (approx.)	8.2 lb
Weight with 26-in. barrel (approx.)	8.5 lb
Weight with 28-in. barrel (approx.)	8.8 lb
Length (over-all) with 20-in. barrel	41 in.
Length (over-all) with 26-in. barrel	47 in.
Length (over-all) with 28-in. barrel	51 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	28 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Auto-loading
Shell capacity	2 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

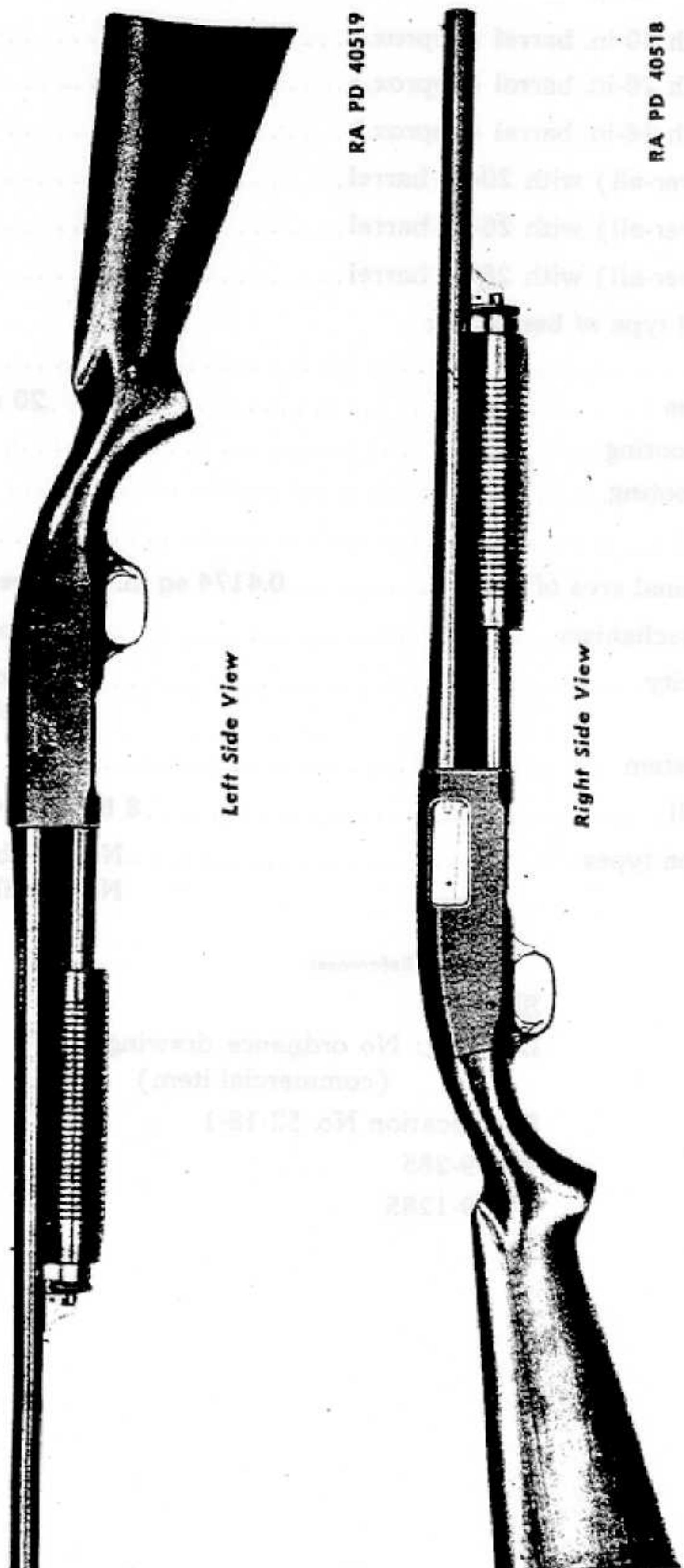


Figure 21—Shotgun, Remington, Model 31, 12 Gage—Riot Type

23. SHOTGUN, REMINGTON, MODEL 31, 12 GAGE.

Weight with 20-in. barrel (approx.)	6.9 lb
Weight with 26-in. barrel (approx.)	7.6 lb
Weight with 30-in. barrel (approx.)	7.8 lb
Length (over-all) with 20-in. barrel	40 in.
Length (over-all) with 26-in. barrel	46 in.
Length (over-all) with 30-in. barrel	50 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	30 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Manual (pump)
Shell capacity	4 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285

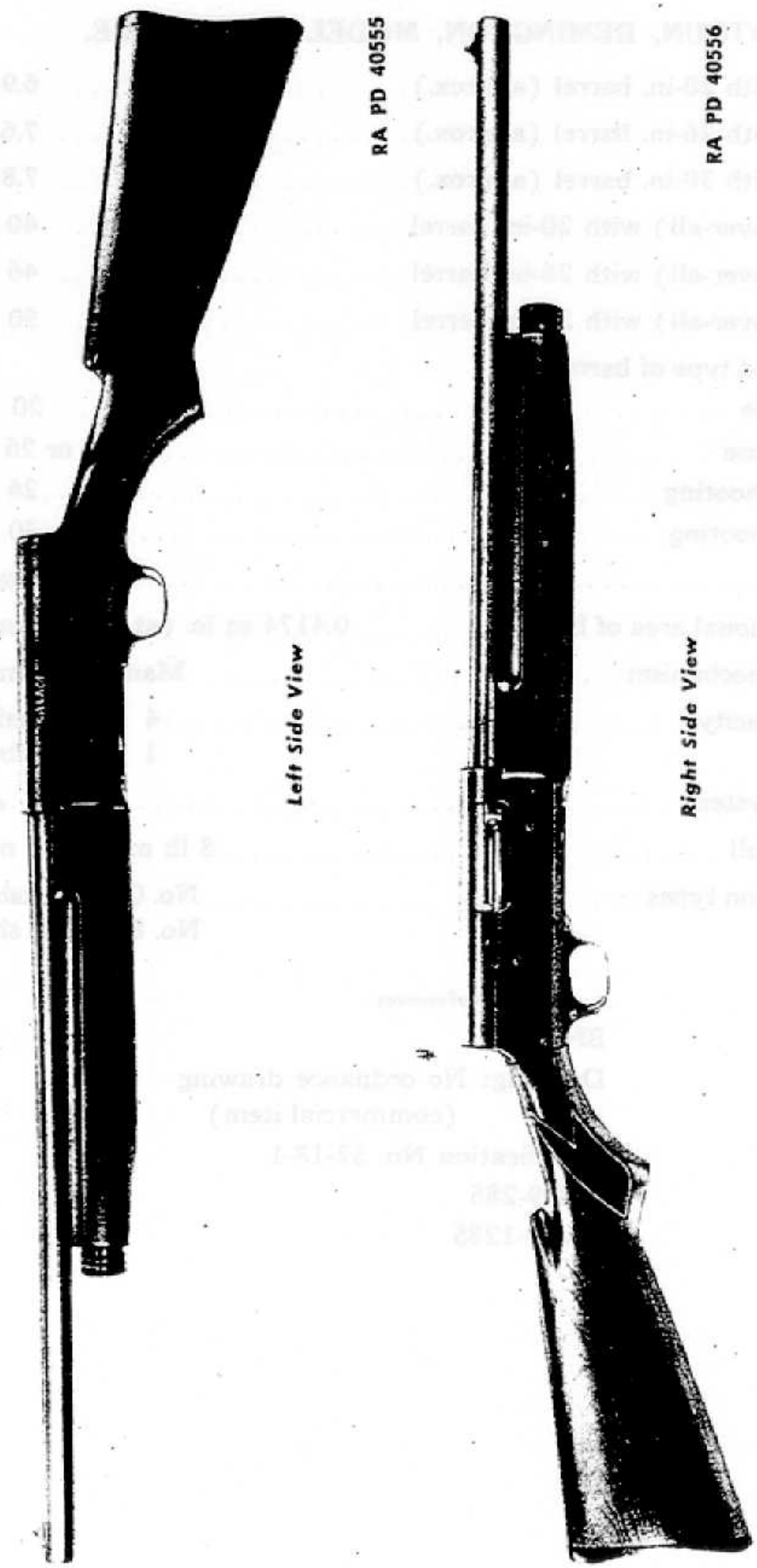


Figure 22—Shotgun, Savage, Model 720, 12 Gage—Riot Type

24. SHOTGUN, SAVAGE, MODEL 720, 12 GAGE.

Weight with 20-inch barrel (approx.)	7.8 lb
Weight with 26-inch barrel (approx.)	8 lb
Weight with 28-inch barrel (approx.)	8.2 lb
Length (over-all) with 20-inch barrel	41 in.
Length (over-all) with 26-inch barrel	47 in.
Length (over-all) with 28-inch barrel	49 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	28 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Auto-loading
Shell capacity	4 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9

Drawing: No ordnance drawing (commercial item)

Specification No. 52-18-1

TM 9-285

TM 9-1285

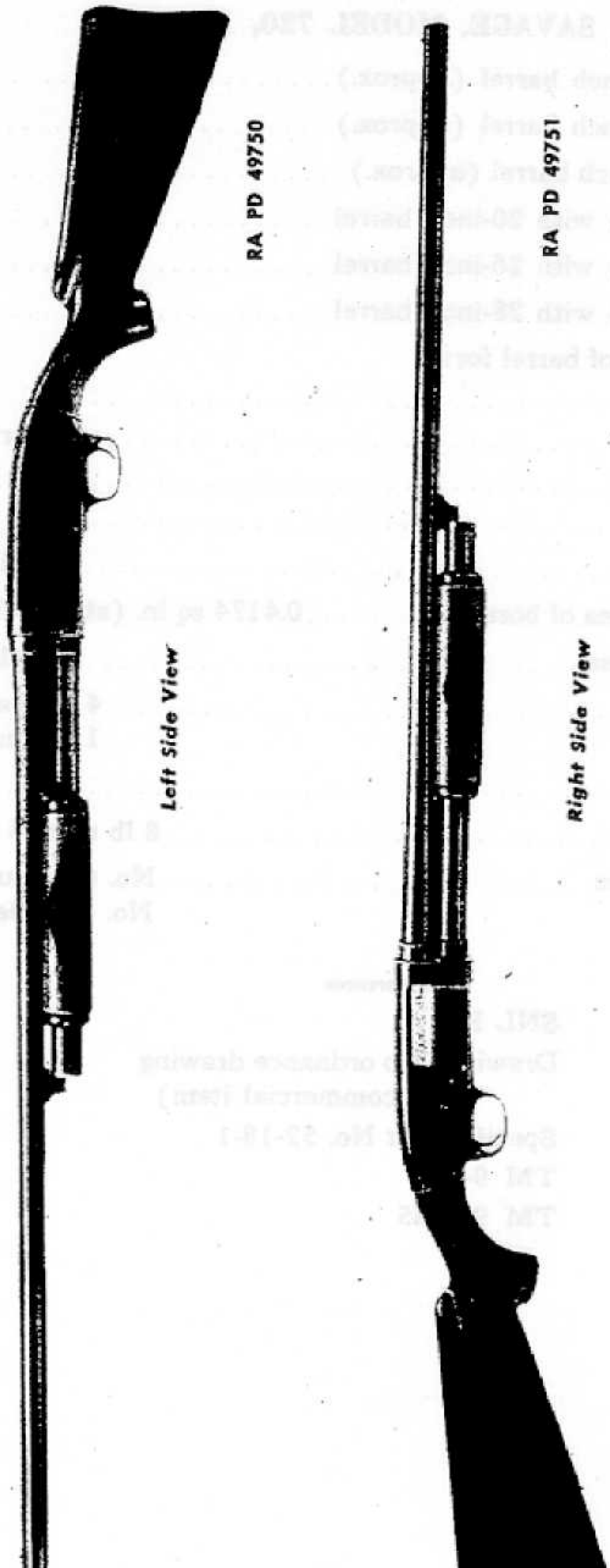


Figure 23—Shotgun, Stevens, Model 620A, 12 Gage—Trap Type

25. SHOTGUN, STEVENS, MODEL 620-A OR MODEL 520-30, 12 GAGE.

Weight with 20-in. barrel (approx.)	7 lb
Weight of riot-type gun (20-in. barrel) with Bayonet M1917	8.1 lb
Weight with 26-in. barrel (approx.)	7.6 lb
Weight with 30-in. barrel (approx.)	8.2 lb
Length (over-all) with 20-in. barrel	40 in.
Length of riot-type gun (20-in. barrel) with Bayonet M1917	57 in.
Length (over-all) with 26-in. barrel	46 in.
Length (over-all) with 30-in. barrel	50 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	30 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Manual (pump)
Shell capacity	5 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

NOTE: Bayonet M1917 can be used on riot-type shotgun.

References

SNL B-9
Drawing: No ordance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285

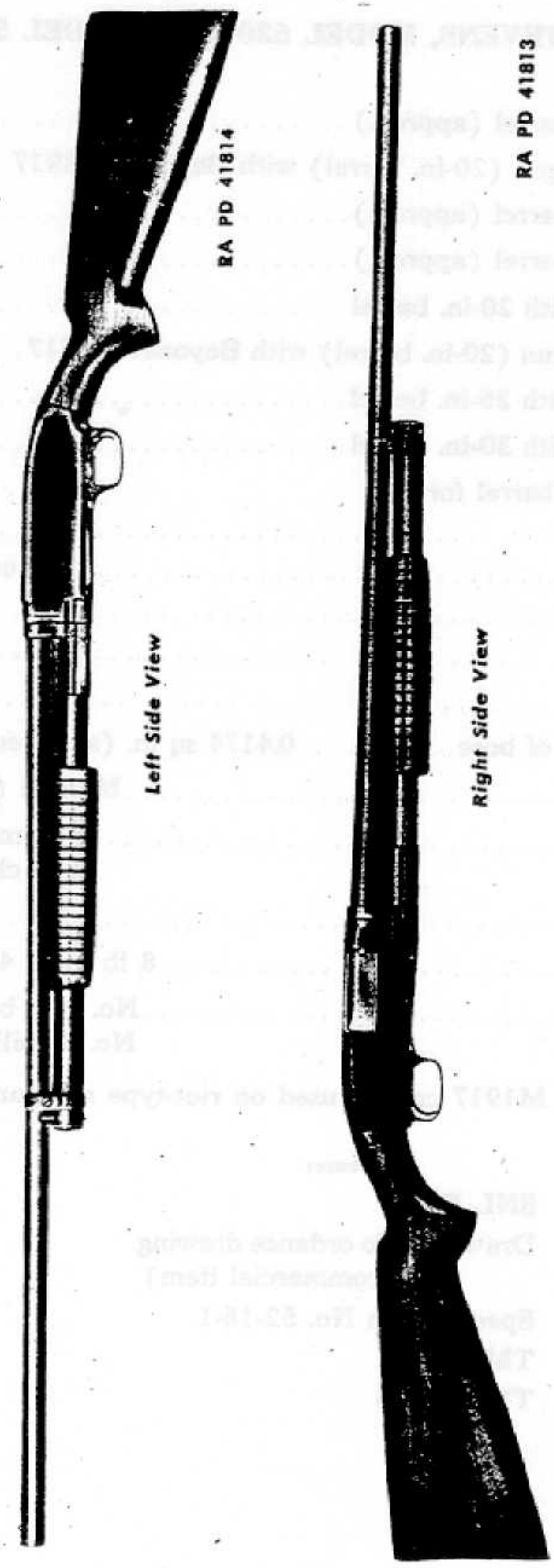


Figure 24—Shotgun, Winchester, Model 12, 12 Gage—Sporting Trap Type

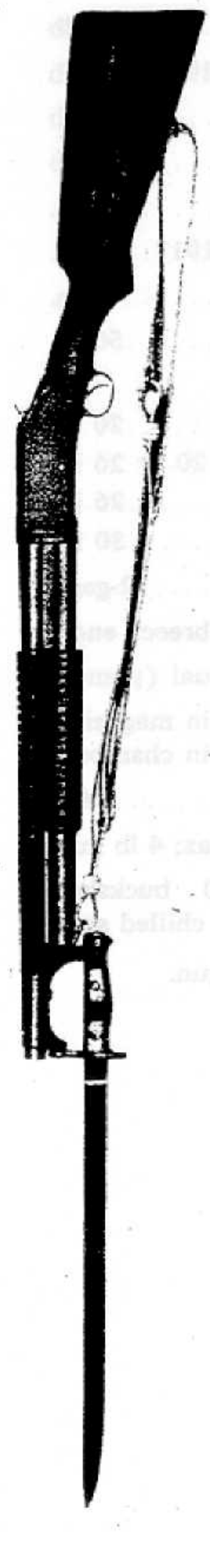
26. SHOTGUN, WINCHESTER, MODEL 12, 12 GAGE.

Weight with 20-in. barrel (approx.)	6.5 lb
Weight of riot-type gun (20-in. barrel) with Bayonet M1917	7.6 lb
Weight with 26-in. barrel (approx.)	7 lb
Weight with 30-in. barrel (approx.)	7.4 lb
Length (over-all) with 20-in. barrel	40 in.
Length of riot-type gun (20-in. barrel) with Bayonet M1917	57 in.
Length (over-all) with 26-in. barrel	46 in.
Length (over-all) with 30-in. barrel	50 in.
Length and type of barrel for:	
Riot use	20 in.
Guard use	20 or 26 in.
Skeet shooting	26 in.
Trap shooting	30 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Manual (pump)
Shell capacity	5 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

NOTE: Bayonet M1917 can be used on riot-type shotgun.

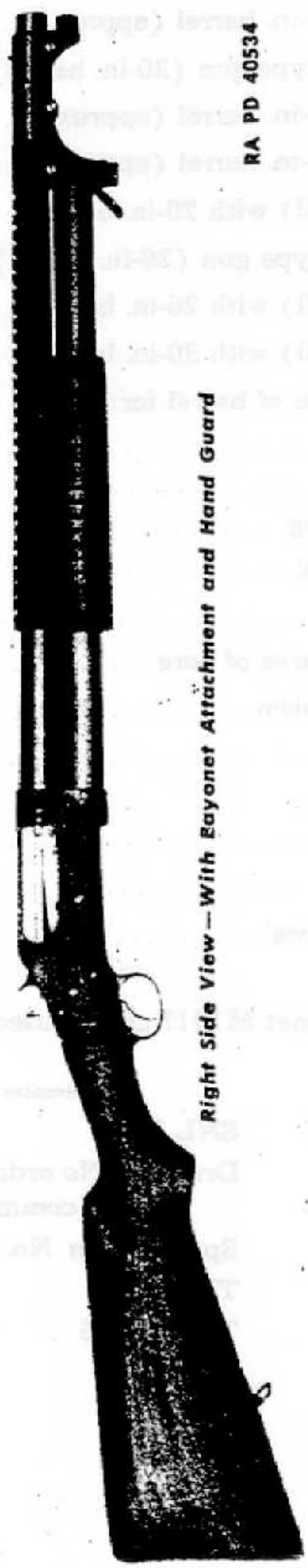
References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285



RA PD 40535

Left Side View—With Bayonet M1917 Hand Guard and Sling



RA PD 40534

Right Side View—With Bayonet Attachment and Hand Guard

Figure 25—Shotgun, Winchester, Model 97, 12 Gage—Riot Type

27. SHOTGUN, WINCHESTER, MODEL 97, 12 GAGE.

Weight with 20-in. barrel (approx.) without bayonet	7.2 lb
Weight with Bayonet M1917	8.3 lb
Length (over-all) with 20-in. barrel (approx.)	39 in.
Length of riot-type gun (20-in. barrel) with Bayonet M1917	56 in.
Length of barrel, riot-type only	Cylinder bore 20 in.
Bore	12-gage
Cross-sectional area of bore	0.4174 sq in. (at breech end)
Type of mechanism	Manual (pump)
Shell capacity	5 in magazine 1 in chamber
Cooling system	Air
Trigger pull	8 lb max; 4 lb min
Ammunition types	No. 00 buckshot No. 8 chilled shot

References

SNL B-9
Drawing: No ordnance drawing (commercial item)
Specification No. 52-18-1
TM 9-285
TM 9-1285



RA PD 66765

Left Side View



RA PD 66764

Right Side View

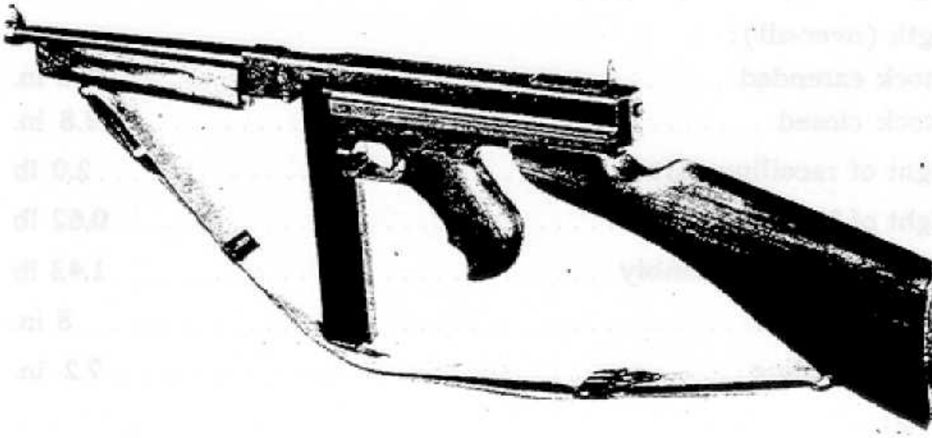
Figure 26—Gun, Submachine, Cal. .45, M3

28. GUN, SUBMACHINE, CAL. .45, M3.

Weight less magazine, oiler, and sling	8.1 lb
Weight, complete with magazine, oiler, and sling	8.9 lb
Weight of magazine (empty)	0.8 lb
Length (over-all):	
Stock extended	29.8 in.
Stock closed	22.8 in.
Weight of recoiling parts	2.0 lb
Weight of barrel	0.62 lb
Weight of barrel assembly	1.43 lb
Length of barrel	8 in.
Length of rifling	7.2 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	16 in. (15 in. alternate)
Depth of grooves	0.0035 in.
Cross-sectional area of bore	0.1581 sq in.
Type of mechanism	Straight blowback, fully automatic
Feeding device	Magazine
Capacity of feeding device	30 rounds
Rate of fire	350 to 450 rounds per min
Cooling system	Air
Mean sight radius	10.8 in.
Type of sights	Fixed peep, 100-yd
Trigger pull	5 to 7 lb
Pull required to retract bolt	18 to 23 lb
Ammunition type	Ball

References

SNL A-58
Drawing No. 51-123-1A
Specification No. AXS-872



RA PD 82770

Left Side View—With 30-Round Magazine Attached



RA PD 82771

Right Side View—With 20-Round Magazine Attached

Figure 27—Gun, Submachine, Thompson, Cal. .45, M1A1

29. GUN, SUBMACHINE, THOMPSON, CAL. .45, M1 AND M1A1.

Weight (approx.)	Without magazine, 10 lb
Weight, 20-round magazine	0.4 lb
Weight, 30-round magazine	0.5 lb
Length (over-all)	31.9 in.
Weight of barrel	0.95 lb
Length of barrel	10.52 in.
Length of rifling	21.6 cal; 9.74 in.
Rifling:	
Number of grooves	6
Right-hand twist: 1 turn in	36 cal; 16 in.
Depth of grooves	0.004 in.
Cross-sectional area of bore	0.1581 sq in.
Type of mechanism	Blowback
Feeding device	Magazine
Capacity of feeding device	20 or 30 rounds
Rate of fire	700 to 800 rounds per min
Cooling system	Air
Sight radius	21.2 in.
Trigger pull	14 lb max; 10 lb min
Ammunition type	Ball

NOTE: Gun, submachine, Thompson, cal. .45, M1A1, differs from Submachine Gun M1 only in having a fixed firing pin in place of a movable firing pin and hammer. The above data for the Submachine Gun M1A1 also applies to the Submachine Gun M1.

References

SNL A-32

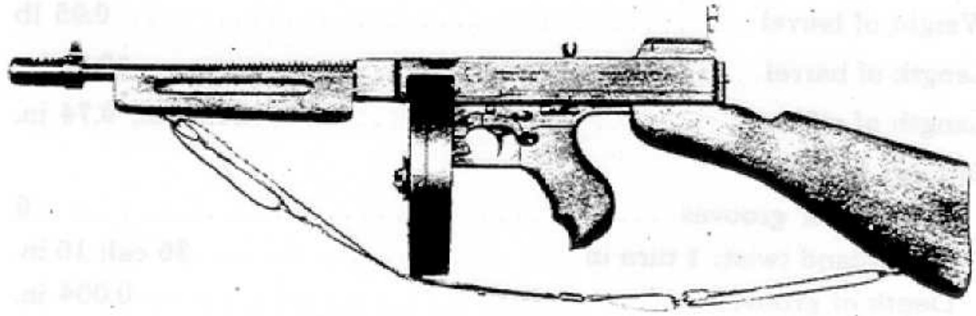
Drawing No. 51-116-1
51-116-1A
51-116-2

Specification No. AXS-725

FM 23-41

TM 9-215

TM 9-1215



RA PD 4105

Left Side View—With 50-Round Magazine



RA PD 4106

Right Side View—With 20-Round Magazine

Figure 28—Gun, Submachine, Thompson, Cal. .45, M1928A1

30. GUN, SUBMACHINE, THOMPSON, CAL. .45, M1928A1.

Weight without magazine	10.8 lb
Weight, 20-round magazine	0.4 lb
Weight, 30-round magazine	0.5 lb
Weight, 50-round magazine	2.6 lb
Length (over-all) (with compensator)	33.7 in.
Weight of recoiling parts	1.62 lb
Weight of barrel	0.75 lb
Length of barrel	10.52 in.
Length of rifling	22.8 cal; 10.12 in.
Rifling:	
Number of grooves	6
Right-hand twist: 1 turn in	36 cal; 16 in.
Depth of grooves	0.0035 in.
Cross-sectional area of bore	0.1581 sq in.
Type of mechanism	Blowback
Feeding device	Magazine
Capacity of feeding device	20- or 30-round box magazine 50 round drum magazine
Rate of fire	600 to 725 rounds per min
Cooling system	Air
Sight radius	22.3 in.
Trigger pull	14 lb max; 10 lb min
Ammunition types	Ball

References

SNL A-32
Drawing No. 51-63
Specification No. 52-3-30
FM 23-40
TM 9-215
TM 9-1215

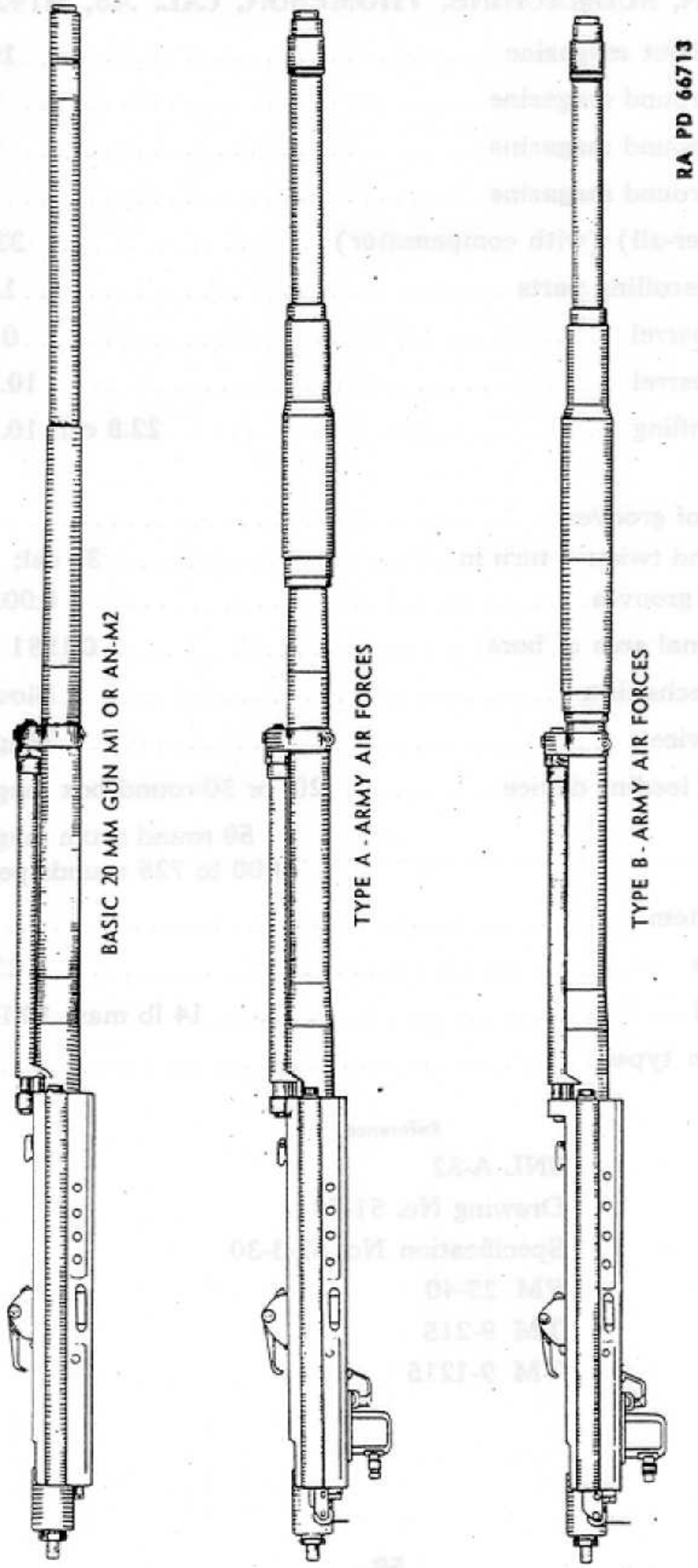


Figure 29A—Gun, Automatic, 20-mm, M1, and AN-M2 (Aircraft) Gun Type Designation Chart—Basic, Type A, and Type B Guns

31. GUN, AUTOMATIC, 20-MM, M1 AND AN-M2 (AIRCRAFT).

a. Data.

Weight of basic Gun M1, or AN-M2 (approx.)	102 lb
Over-all length of basic gun (approx.)	94 in.
Weight of tube	47.5 lb
Length of tube	67.5 in.
Weight of 20-mm Adapter AN-M1	11.3 lb
Weight of Electric Trigger AN-M1	5 lb
Weight of Hydraulic Charger M1	2.6 lb
Weight of 20-mm Feed Mechanism AN-M1	18 lb
Weight of 20-mm Adapter M6	14 lb
Weight of 20-mm Adapter M7 (thread protector)	7.5 lb
Weight of 20-mm Adapter M7 (muzzle brake)	10.7 lb
Weight of Muzzle Brake M1	4.6 lb
Weight of Sear Mechanism M1	1.3 lb
Weight of Manual Charger M2	1.5 lb
Weight of 60-round 20-mm Magazine M1	22 lb
Rate of fire	600 to 700 rounds per min
Length of rifling	63.08 in.
Rifling:	
Number of grooves	9
Depth of grooves	0.015 in.
Width of grooves	0.205 in.
Width of lands	0.068 in.
Twist, uniform, right-hand, slope	7 deg
Bore of tube:	
Across rifling lands	0.787 in.
Across rifling grooves	0.817 in.
Travel of projectile in tube	63.68 in.
Ammunition types	HE-I; AP-T; ball

b. Gun Type Designation.

(1) The following gun type designation is based on the kind of adapter, sear actuating mechanism, and charger used with the basic M1 or AN-M2 Gun:

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

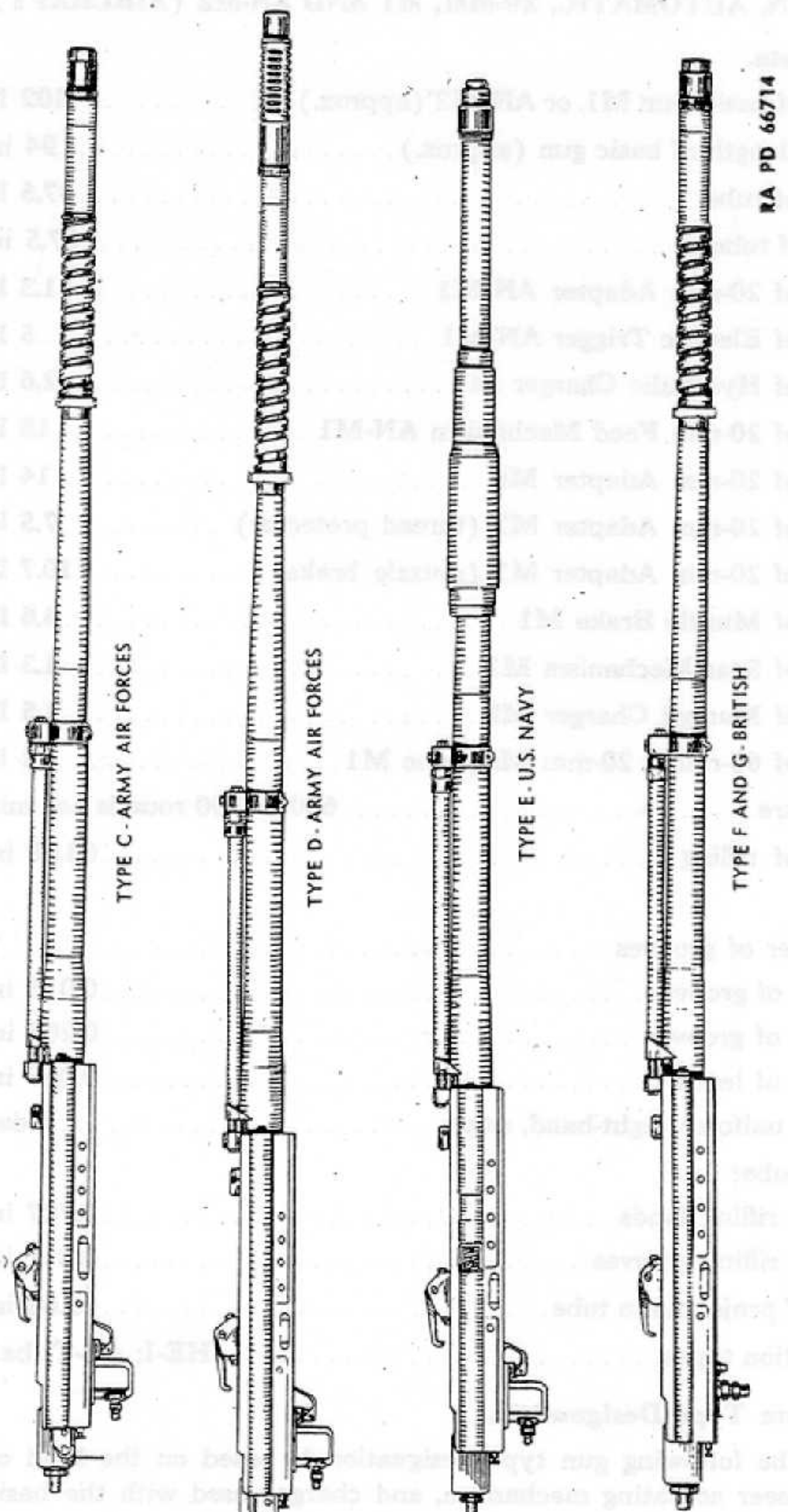


Figure 29B — Gun, Automatic, 20-mm, M1, and AN-M2 (Aircraft) Gun Type Designation Chart — Types C, D, E, F, and G Guns

(a) Type A is used by the U. S. Army Air Forces. It consists of the basic M1 or AN-M2 Gun with AN-M1 Adapter, AN-M1 Electric Trigger, and M2 Manual Charger.

(b) Type B is used by the U. S. Army Air Forces. It consists of the basic M1 or AN-M2 Gun with M6 Adapter, AN-M1 Electric Trigger, and M2 Manual Charger.

(c) Type C is used by the U. S. Army Air Forces. It consists of the basic M1 or AN-M2 Gun with the M7 Adapter (with thread protector), AN-M1 Electric Trigger and M2 Manual Charger.

(d) Type D is used by the U. S. Army Air Forces. It consists of the basic M1 or AN-M2 Gun with the M7 Adapter (with M1 Muzzle Brake), AN-M1 Electric Trigger, and M2 Manual Charger.

(e) Type E is used by the U. S. Navy. It consists of the basic AN-M2 Gun with the AN-M1 Adapter, AN-M1 Electric Trigger, and M1 Hydraulic Charger.

(f) Type F is used by the British. It consists of the basic M1 Gun with the M7 Adapter (with thread protector), and M1 Sear Mechanism.

(g) Type G is used by the British. It consists of the basic AN-M2 Gun with M7 Adapter (with thread protector), and M1 Sear Mechanism.

References

SNL A-47
Drawing No. 51-105
TM 9-227
TM 9-1227

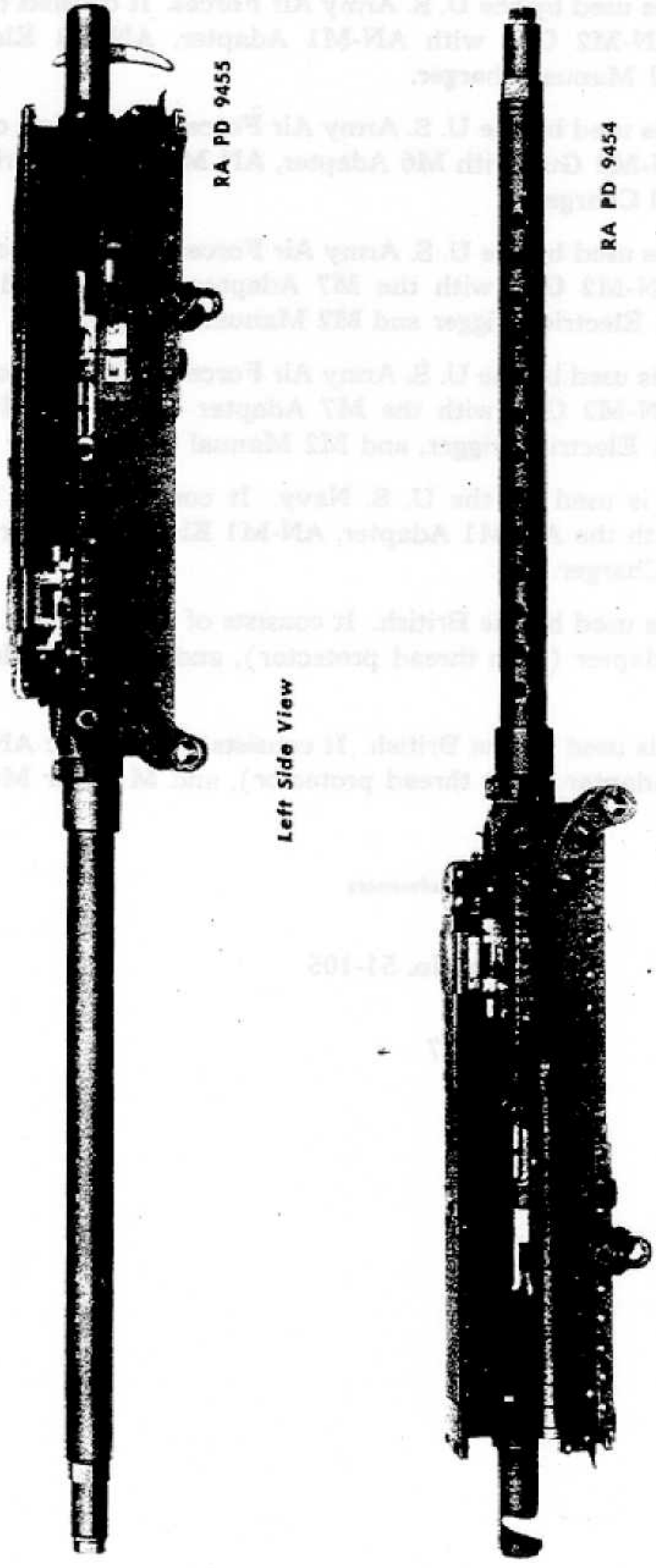


Figure 30—Gun, Machine, Cal. .30, Browning, Aircraft, M2, Fixed

32. GUN, MACHINE, CAL. .30, BROWNING, AIRCRAFT, M2, FIXED.

Weight	21.5 lb
Length (over-all)	39.8 in.
Weight of recoiling parts	6.56 lb
Weight of barrel	3.81 lb
Length of barrel	23.9 in.
Length of rifling	70.9 cal; 21.35 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	As desired
Rate of fire	1000 to 1350 rounds per min
Cooling system	Air
Sight radius	Sights not furnished by the Ordnance Department
Firing pin release	Pressure applied to sear: 12 to 17 lb Pressure applied to sear holder: 25 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-28
Drawing No. 51-57
Specification No. 52-7-10
TM 9-205
TM 9-1205

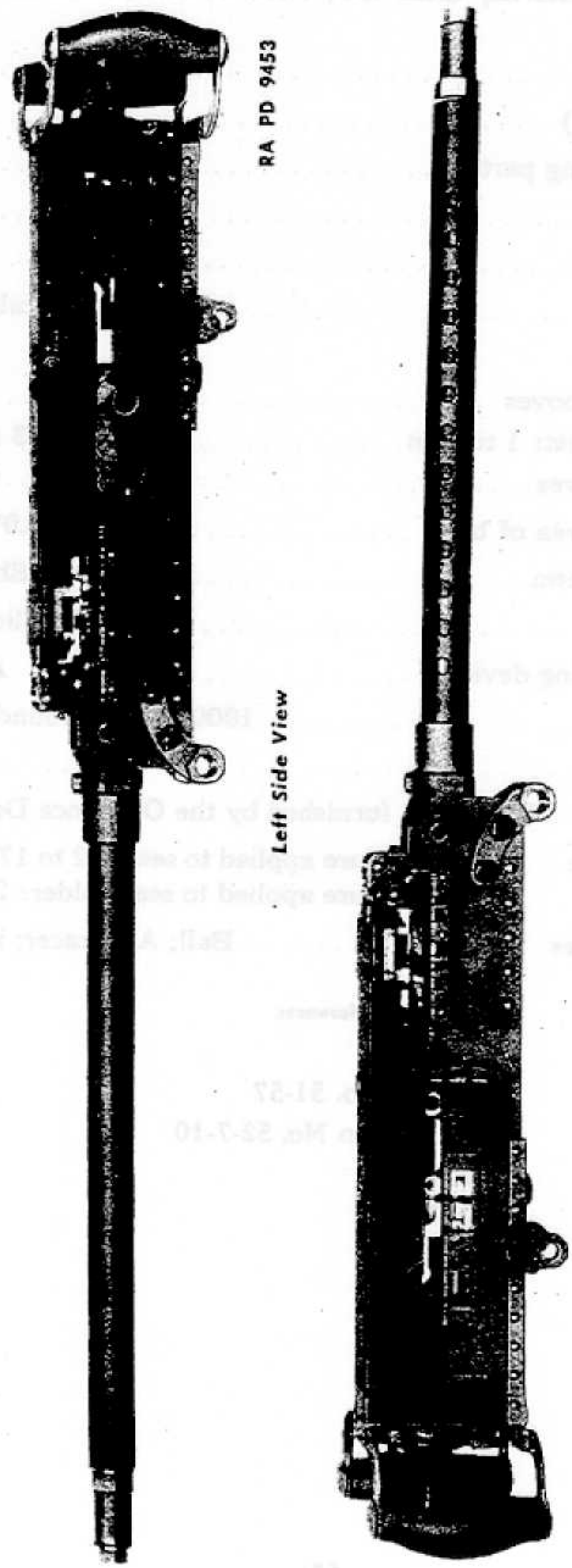


Figure 31—Gun, Machine, Cal. .30, Browning, Aircraft, M2, Flexible

33. GUN, MACHINE, CAL. .30, BROWNING, AIRCRAFT, M2, FLEXIBLE.

Weight	23 lb
Length (over-all)	39.8 in.
Weight of recoil parts	6.56 lb
Weight of barrel	3.81 lb
Length of barrel	23.9 in.
Length of rifling	70.9 cal; 21.35 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	As desired
Rate of fire	1000 to 1350 rounds per min
Cooling system	Air
Sight radius	Sights not furnished by the Ordnance Department
Firing pin release	Pressure applied to sear: 12 to 17 lb Pressure applied to sear holder: 25 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-28
Drawing No. 51-76
Specification No. 52-7-10
TM 9-205
TM 9-1205

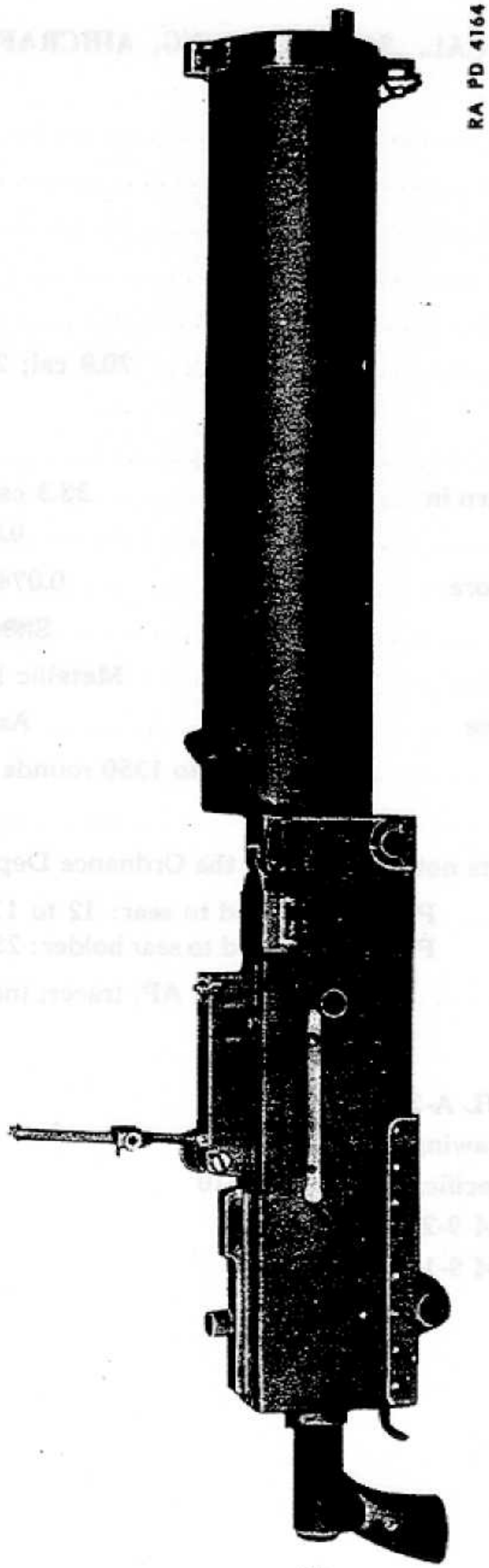


Figure 32—Gun, Machine, Cal. .30, Browning, M1917A1

34. GUN, MACHINE, CAL. .30, BROWNING, M1917A1.

Weight	41 lb
Weight less water	32.6 lb
Length (over-all)	38.64 in.
Weight of recoiling parts	7.35 lb
Weight of barrel	3 lb
Length of barrel	23.9 in.
Length of rifling	71 cal; 21.28 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	450 to 600 rounds per min
Cooling system	Water, capacity 8 pints
Sight radius	26.3 in.
Sear release	9 lb
Trigger pull	7 lb min; 12 lb max
Ammunition types	Ball; AP; tracer

References.

SNL A-5
Drawing No. 51-10
Specification No. 52-5-1A
FM 23-55
TM 9-1205

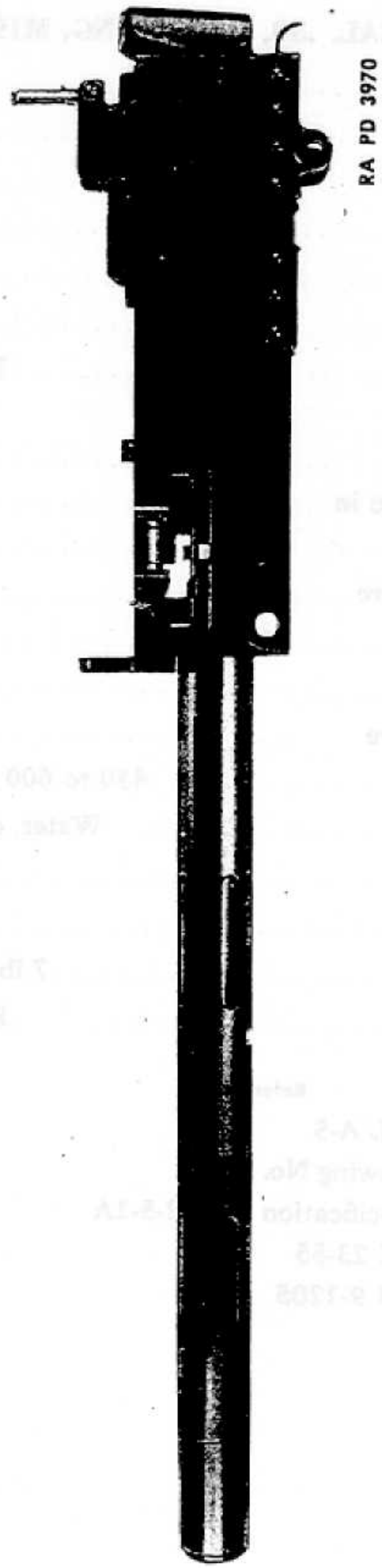


Figure 33—Gun, Machine, Cal. .30, Browning, M1919A4, Fixed

35. GUN, MACHINE, CAL. .30, BROWNING, M1919A4, FIXED.

Weight	30.5 lb
Length (over-all)	37.94 in.
Weight of recoiling parts	11.7 lb
Weight of barrel	7.35 lb
Length of barrel	24 in.
Length of rifling	71 cal; 21.38 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	400 to 550 rounds per min
Cooling system	Air
Sight radius	13.9 in.
Sear release	9 lb
Trigger pull	7 lb min; 12 lb max
Ammunition types	Ball; AP; tracer

References

SNL A-6
Drawing No. 51-83
Specification No. 52-6-1
FM 23-45 (ground mount)
FM 23-50 (mounted in combat vehicles)
TM 9-1205

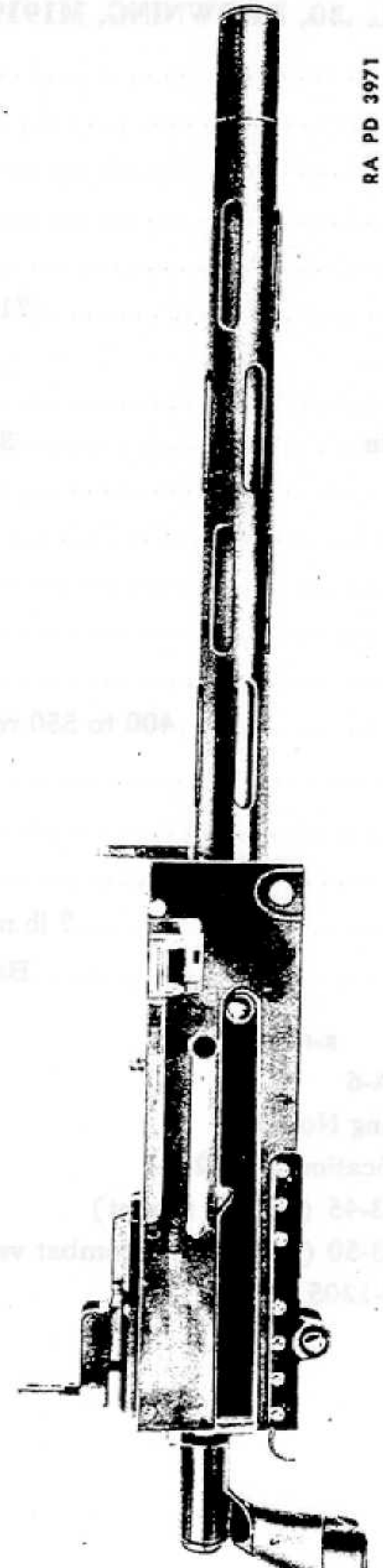


Figure 34—Gun, Machine, Cal. .30, Browning, M1919A4, Flexible

36. GUN, MACHINE, CAL. .30, BROWNING, M1919A4, FLEXIBLE.

Weight	31 lb
Length (over-all)	41.11 in.
Weight of recoiling parts	11.7 lb
Weight of barrel	7.35 lb
Length of barrel	24 in.
Length of rifling	71 cal; 21.38 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	400 to 550 rounds per min
Cooling system	Air
Sight radius	13.94 in.
Sear release	9 lb
Trigger pull	7 lb min; 12 lb max
Ammunition types	Ball; AP; tracer

References

SNL A-6
Drawing No. 51-84
Specification No. 52-6-1
FM 23-45 (ground mount)
FM 23-50 (mounted in combat vehicles)
TM 9-1205

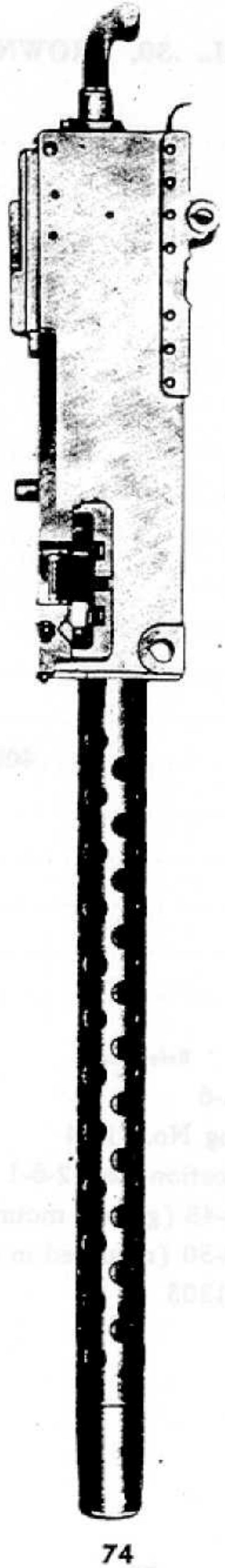


Figure 35—Gun, Machine, Cal. .30, Browning, M1919A5, Fixed

37. GUN, MACHINE, CAL. .30, BROWNING, M1919A5, FIXED.

Weight	31 lb
Length (over-all)	40.8 in.
Weight of recoiling parts	11.7 lb
Weight of barrel	7.35 lb
Length of barrel	24 in.
Length of rifling	71 cal; 21.38 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	400 to 550 rounds per min
Cooling system	Air
Sear release	9 lb
Trigger pull	7 lb min; 12 lb max
Ammunition types	Ball; AP; tracer

References

SNL A-6
Drawing No. 51-114-1
Specification No. 52-6-1C
TM 9-1205

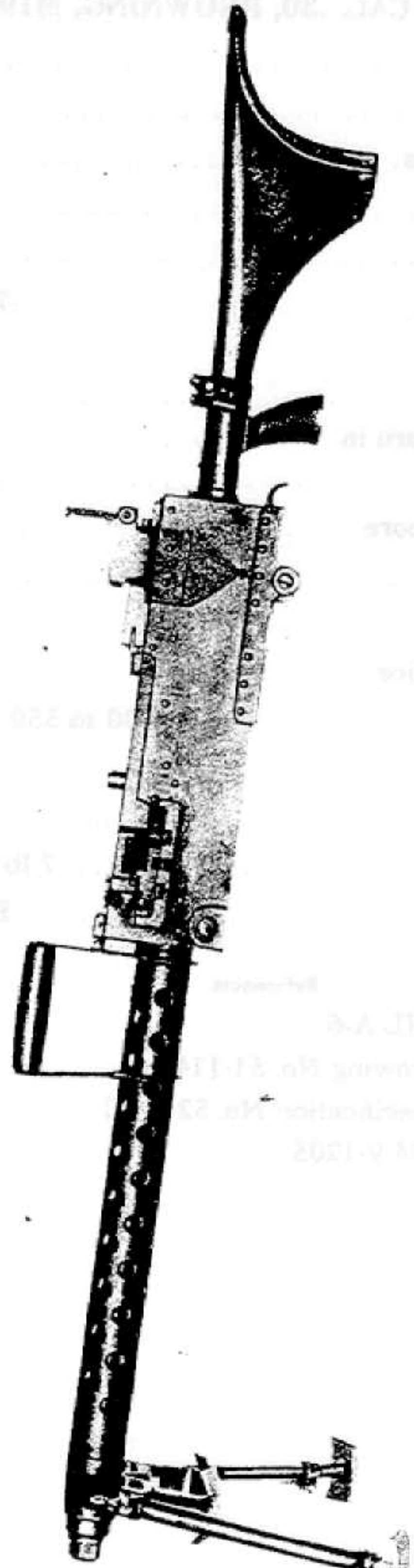


Figure 36—Gun, Machine, Cal. .30, Browning, M1919A6

38. GUN, MACHINE, CAL. .30, BROWNING, M1919A6.

Weight with metal stock	32.5 lb
Length (over-all)	53 in.
Weight of recoiling parts (approx.)	7.5 lb
Weight of barrel (approx.)	4.65 lb
Length of barrel	24 in.
Length of rifling	71 cal; 21.38 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	33.3 cal; 10 in.
Depth of grooves	0.0040 in.
Cross-sectional area of bore	0.0740 sq in.
Type of mechanism	Short recoil
Feeding device	Link and belt
Capacity of feeding device	250 rounds
Rate of fire	Approx. 400 to 500 rounds per min
Cooling system	Air
Sight radius	13.9 in.
Maximum command	14.5 in.
Sear release	9 lb
Trigger pull	8½ lb
Ammunition types	Ball; AP; tracer

NOTE: This gun is the same as the Gun, Machine, Cal. .30, Browning, M1919A4, except that it has a lighter barrel and has the addition of a front bipod, shoulder stock, and carrying handle.

References

SNL A-6
Specification No. 52-6-1

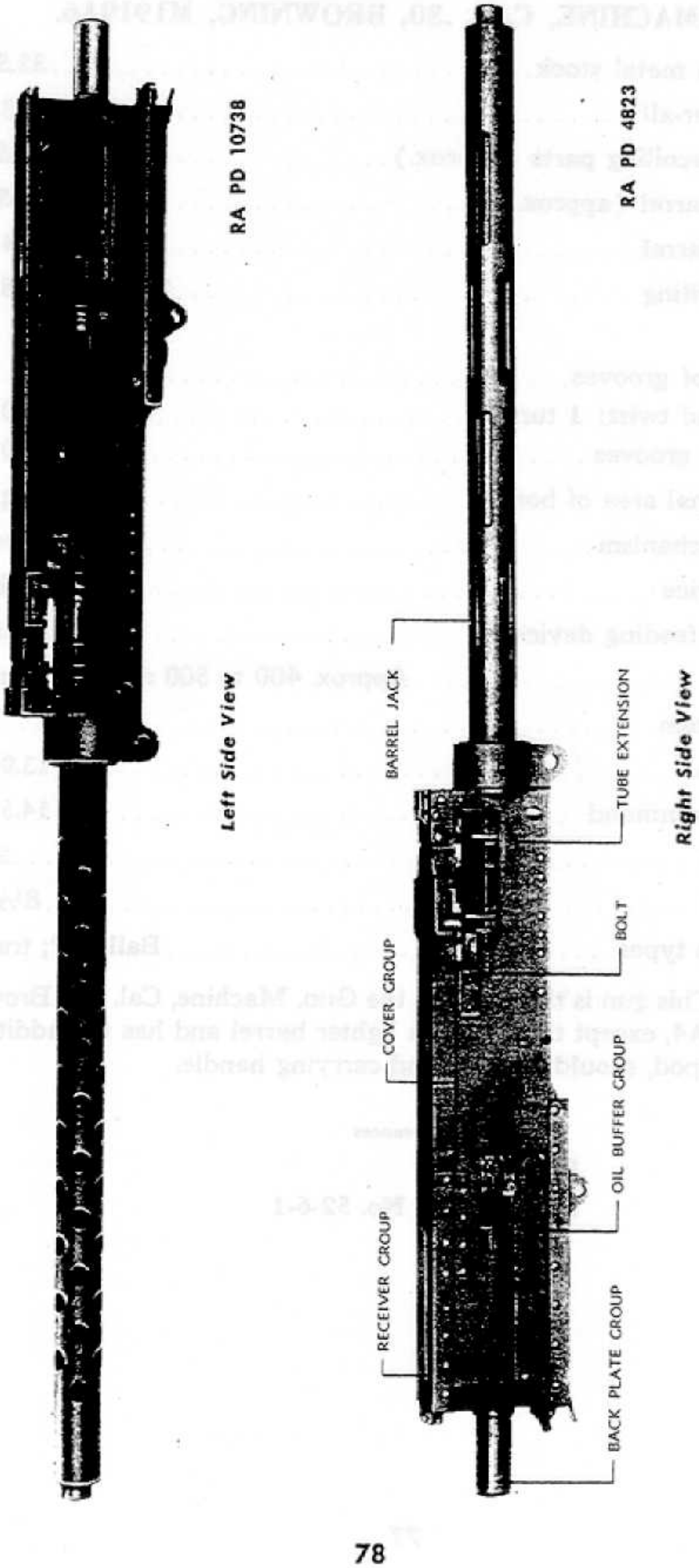


Figure 37—Gun, Machine, Cal. .50 Browning, M2, Aircraft, Basic

39. GUN, MACHINE, CAL. .50, BROWNING, M2, AIRCRAFT, BASIC.

Weight with back plate with horizontal buffer, assembly	61 lb
Length (over-all)	57 in.
Weight of recoiling parts	19.2 lb
Weight of barrel	9.8 lb
Length of barrel	36 in.
Length of rifling	63.8 cal; 31.91 in.
Rifling:	
Number of grooves	8
Right-hand twist: 1 turn in	30 cal; 15 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.2021 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	As desired
Rate of fire	750 to 850 rounds per min
Cooling system	Air
Sight radius	Sights not furnished by the Ordnance Department
Firing pin release	Pressure applied to sear: 10 to 20 lb Pressure applied to sear slide: 30 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

NOTE: This basic gun may be modified into various types by use of additional assemblies. Since the basic gun is equipped with a back plate with horizontal buffer, a change in back plate involves the difference in weights of the back plates. Other assemblies increase the weight of the gun by their own actual weight.

Weight, retracting slide group assembly	3.00 lb
Weight, operating slide group assembly	1.62 lb
Weight, back plate with horizontal buffer assembly	2.68 lb
Weight, back plate with spade grips, trigger safety, trigger assembly	4.01 lb
Weight, side plate trigger assembly	0.44 lb

References

SNL A-36
Drawing No. 51-72
Specification No. 52-11-1
TM 9-225
TM 9-1225

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS



Figure 38—Gun, Machine, Cal. .50, Browning, M2, HB, Fixed

40. GUN, MACHINE, CAL. .50, BROWNING, M2, HB, FIXED.

Weight	82 lb
Length (over-all)	65 in.
Weight of recoiling parts	38.8 lb
Weight of barrel	27 lb
Length of barrel	45 in.
Length of rifling	81.8 cal; 40.91 in.
Rifling:	
Number of grooves	8
Right-hand twist: 1 turn in	30 cal; 15 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.2021 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	110 rounds
Rate of fire	450 to 575 rounds per min
Cooling system	Air
Sight radius	20 in.
Firing pin release	Pressure applied to sear: 10 to 20 lb Pressure applied to sear slide: 30 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-39
Drawing No. 51-74
Specification No. 52-11-1
FM 23-60 (ground mount)
FM 23-65 (mounted in combat vehicles)
TM 9-1225



Figure 39—Gun, Machine, Cal. .50, Browning, M2, HB, Flexible

41. GUN, MACHINE, CAL. .50, BROWNING, M2, HB, FLEXIBLE.

Weight	84 lb
Length (over-all)	65 in.
Weight of recoiling parts	38.8 lb
Weight of barrel	27 lb
Length of barrel	45 in.
Length of rifling	81.8 cal; 40.91 in.
Rifling:	
Number of grooves	8
Right-hand twist: 1 turn in	30 cal; 15 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.2021 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	110 rounds
Rate of fire	450 to 575 rounds per min
Cooling system	Air
Sight radius	20 in.
Firing pin release	Pressure applied to sear: 10 to 20 lb Pressure applied to sear slide: 30 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-39
Drawing No. 51-70
Specification No. 52-11-1
FM 23-60 (ground mount)
FM 23-65 (mounted in combat vehicles)
TM 9-1225



RA PD 69802

Figure 40—Gun, Machine, Cal. .50, Browning, M2, HB, Turret Type

42. GUN, MACHINE, CAL. .50, BROWNING, M2, HB, TURRET TYPE.

Weight	81 lb
Length (over-all)	65 in.
Weight of recoiling parts	38.8 lb
Weight of barrel	27 lb
Length of barrel	45 in.
Length of rifling	81.8 cal; 40.91 in.
Rifling:	
Number of grooves	8
Right-hand twist: 1 turn in	30 cal; 15 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.2021 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	110 rounds
Rate of fire	450 to 575 rounds per min
Cooling system	Air
Firing pin release	Pressure applied to sear: 10 to 20 lb Pressure applied to sear slide: 30 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-59
Drawing No. 51-119
Specification No. 52-11-1
TM 9-1225

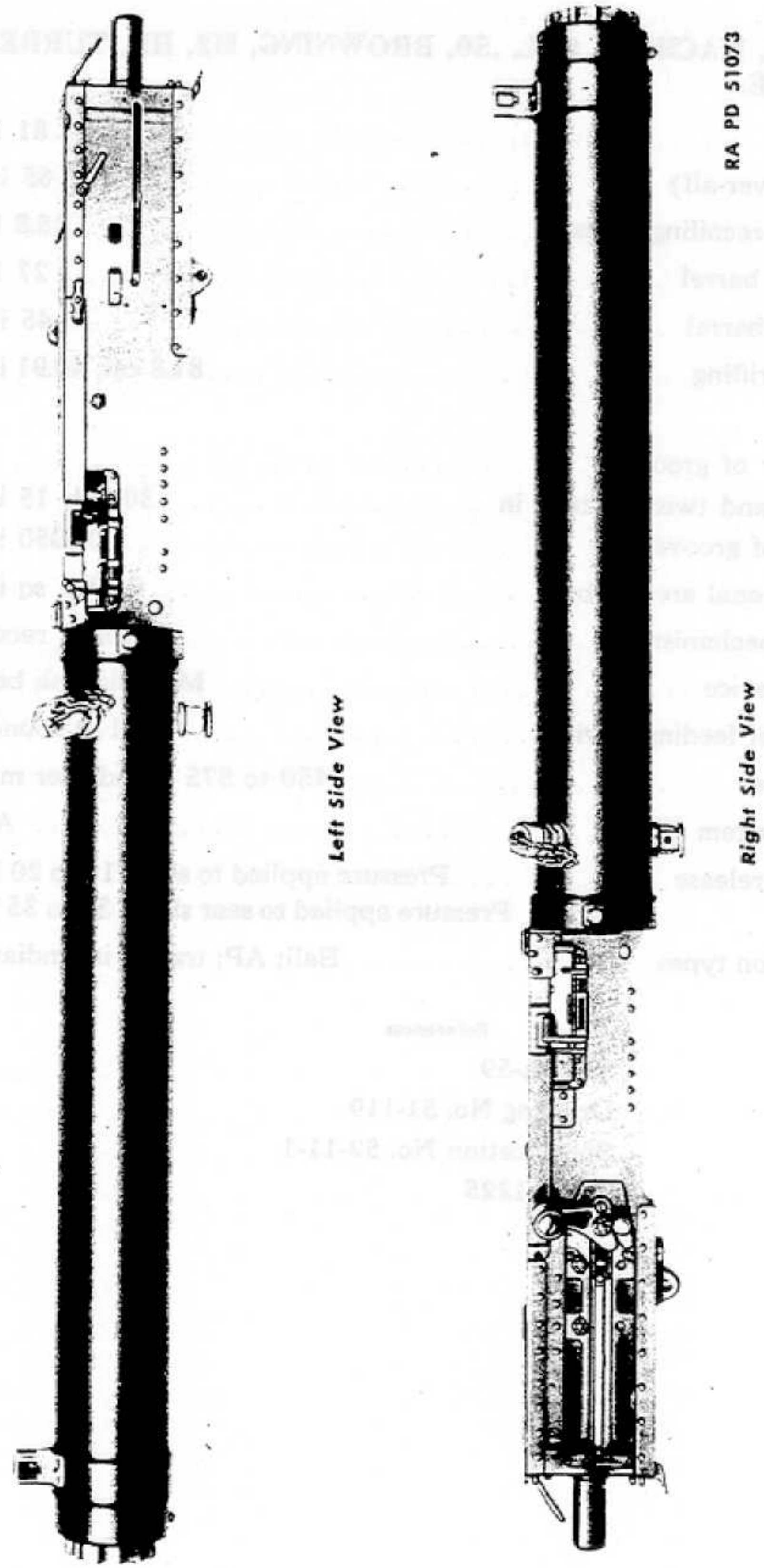


Figure 41—Gun, Machine, Cal. .50, Browning, M2, Water-Cooled, Flexible

43. GUN, MACHINE, CAL. .50, BROWNING, M2, WATER-COOLED, FLEXIBLE.

Weight	121 lb
Weight less water	100 lb
Length (over-all)	66 in.
Weight of recoiling parts	24.5 lb
Weight of barrel	15.2 lb
Length of barrel	45 in.
Length of rifling	81.8 cal; 40.91 in.
Rifling:	
Number of grooves	8
Right-hand twist: 1 turn in	30 cal; 15 in.
Depth of grooves	0.0050 in.
Cross-sectional area of bore	0.2021 sq in.
Type of mechanism	Short recoil
Feeding device	Metallic link belt
Capacity of feeding device	110 rounds
Rate of fire	500 to 650 rounds per min
Cooling system	Water (capacity 10 qt)
Firing pin release	Pressure applied to sear: 10 to 20 lb Pressure applied to sear slide: 30 to 35 lb
Ammunition types	Ball; AP; tracer; incendiary

References

SNL A-37
Drawing No. 51-68
Specification No. 52-11-1
FM 4-135
TM 9-226
TM 9-1225

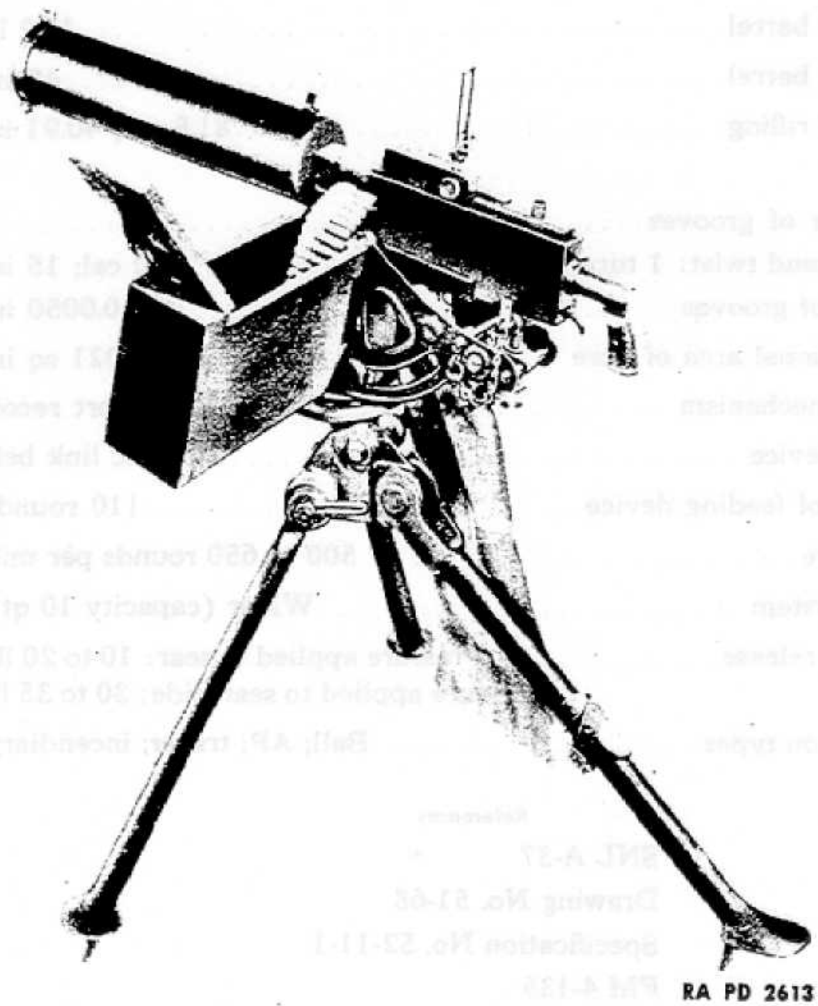


Figure 42—Trainer, Machine Gun, Cal. .22, M3, Assembled to Machine Gun, Cal. .30, Browning, M1917A1

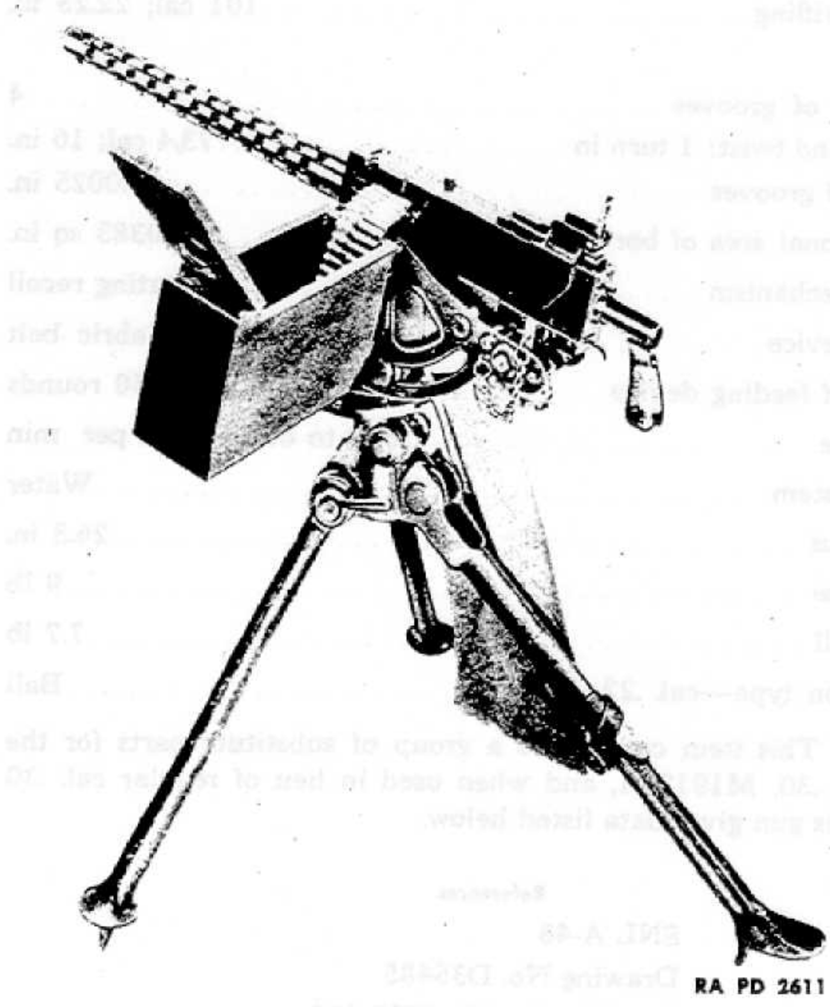
44. TRAINER, MACHINE GUN, CAL. .22, M3.

Weight, M3 conversion parts	6.5 lb
Length, complete assembly (over-all)	38.6 in.
Weight of barrel	3.01 lb
Length of barrel	22.75 in.
Length of rifling	101 cal; 22.25 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Floating recoil
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	550 to 650 rounds per min
Cooling system	Water
Sight radius	26.3 in.
Sear release	9 lb
Trigger pull	7.7 lb
Ammunition type—cal. .22, long rifle	Ball

NOTE: This item constitutes a group of substitute parts for the BMG, cal. .30, M1917A1, and when used in lieu of regular cal. .30 parts in this gun gives data listed below.

References

SNL A-48
Drawing No. D35485
Specification No. SXS-128
TM 9-1205



RA PD 2611

Figure 43—Trainer, Machine Gun, Cal. .22, M4, Assembled to Machine Gun, Cal. .30, Browning, M1917A4

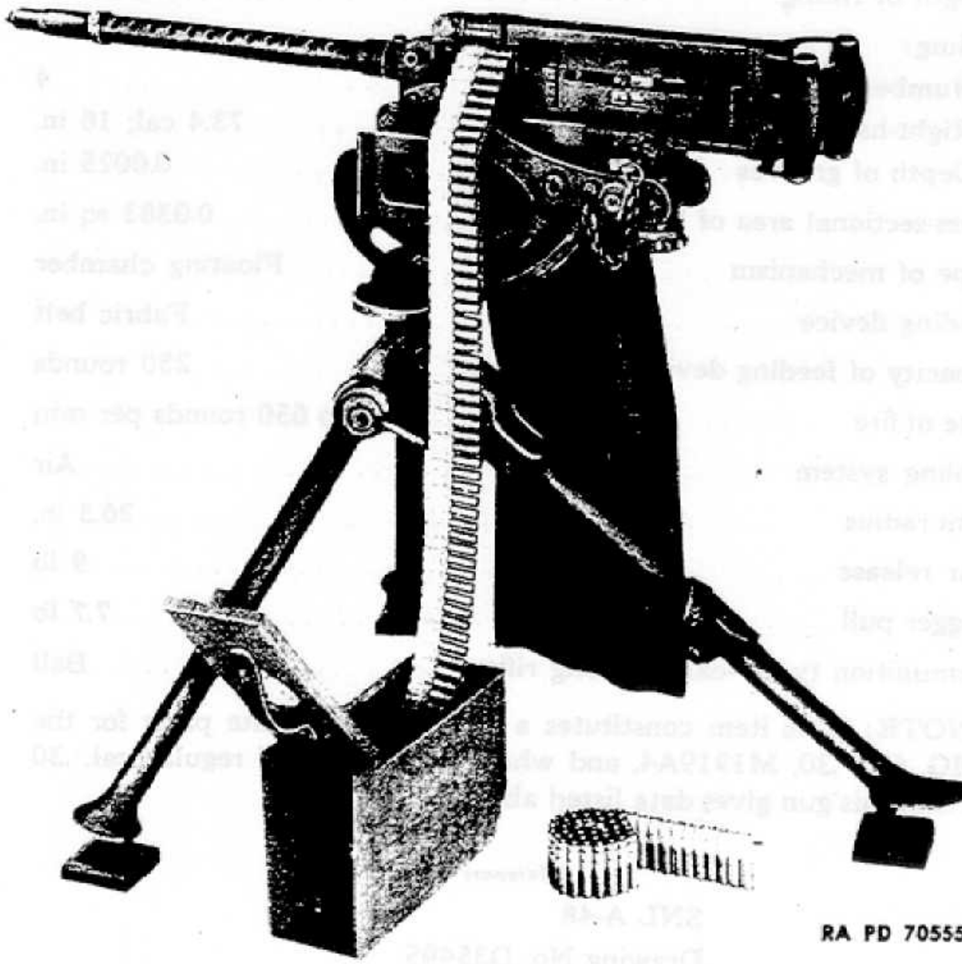
45. TRAINER, MACHINE GUN, CAL. .22, M4.

Weight, M4 conversion parts	7 lb
Length, complete assembly (over-all)	41.1 in.
Weight of barrel	3.01 lb
Length of barrel	22.75 in
Length of rifling	101 cal; 22.25 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Floating chamber
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	550 to 650 rounds per min
Cooling system	Air
Sight radius	26.3 in.
Sear release	9 lb
Trigger pull	7.7 lb
Ammunition type—cal. .22, long rifle	Ball

NOTE: This item constitutes a group of substitute parts for the BMG, Cal. .30, M1919A4, and when used in lieu of regular cal. .30 parts in this gun gives data listed above.

References

SNL A-48
Drawing No. D35495
Specification No. SXS-128
TM 9-1205



RA PD 70555

Figure 44—Trainer, Machine Gun, Cal. .22, M5, Assembled to Machine Gun, Cal. .30, Browning, Aircraft, M2

46. TRAINER, MACHINE GUN, CAL. .22, M5.

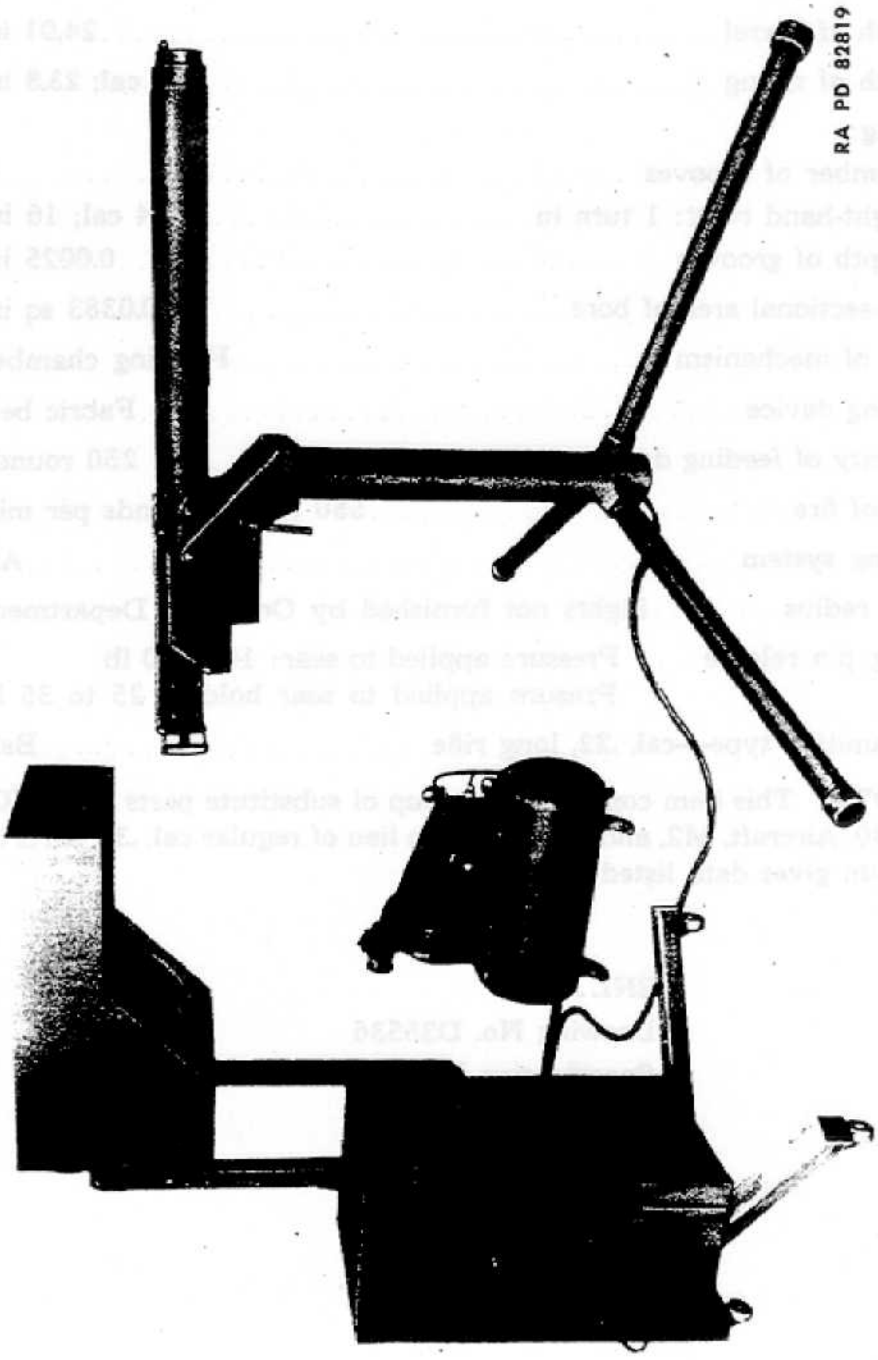
Weight, M5 conversion parts	7 lb
Length, complete assembly (over-all)	39.8 in.
Weight of barrel	3.06 lb
Length of barrel	24.01 in.
Length of rifling	107 cal; 23.5 in.
Rifling:	
Number of grooves	4
Right-hand twist: 1 turn in	73.4 cal; 16 in.
Depth of grooves	0.0025 in.
Cross-sectional area of bore	0.0383 sq in.
Type of mechanism	Floating chamber
Feeding device	Fabric belt
Capacity of feeding device	250 rounds
Rate of fire	550 to 650 rounds per min
Cooling system	Air
Sight radius	Sights not furnished by Ordnance Department
Firing pin release	Pressure applied to sear: 10 to 20 lb Presure applied to sear holder: 25 to 35 lb
Ammunition type—cal. .22, long rifle	Ball

NOTE: This item constitutes a group of substitute parts for BMG, Cal. .30, Aircraft, M2, and when used in lieu of regular cal. .30 parts in this gun gives data listed above.

References

SNL A-48
Drawing No. D35536
Specification No. SXS-128
TM 9-1205

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS



RA PD 82819

Figure 45—Trainer, Machine Gun, AA, M9

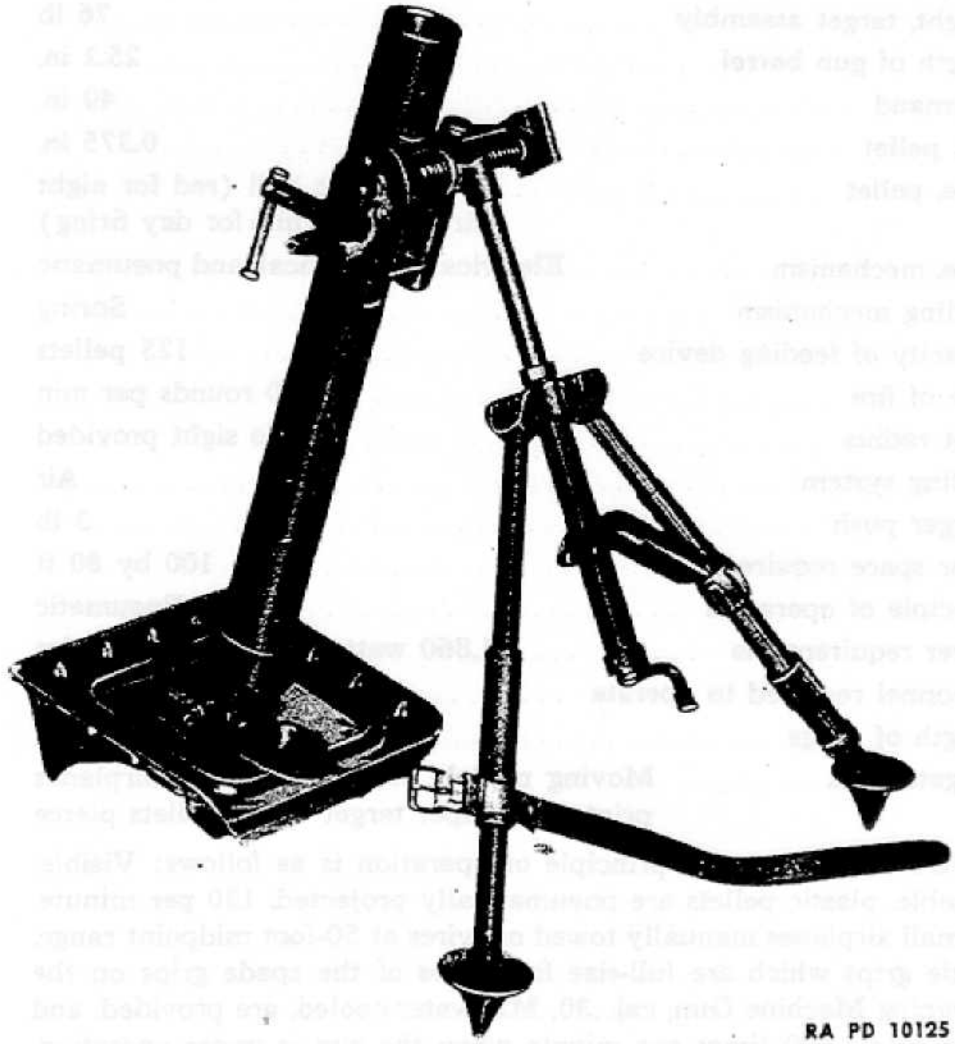
47. TRAINER, MACHINE GUN, AA, M9.

Weight, total	1,004 lb
Weight, compressor	320 lb
Weight, gun assembly, complete	196 lb
Weight, light equipment, ultraviolet	57 lb
Weight, sound equipment	355 lb
Weight, target assembly	76 lb
Length of gun barrel	25.2 in.
Command	49 in.
Size, pellet	0.375 in.
Type, pellet	Plastic ball (red for night firing, and white for day firing)
Type, mechanism	Electrical, mechanical, and pneumatic
Feeding mechanism	Spring
Capacity of feeding device	125 pellets
Rate of fire	120 rounds per min
Sight radius	No sight provided
Cooling system	Air
Trigger push	3 lb
Floor space required	100 by 80 ft
Principle of operation	Pneumatic
Power requirements	1,860 watts, 115 volts, 60 cycles
Personnel required to operate	1
Length of range	50 ft midpoint
Targets used	Moving models of airplanes, and airplanes printed on paper target which pellets pierce

NOTE: The general principle of operation is as follows: Visible, reusable, plastic pellets are pneumatically projected, 120 per minute, at small airplanes manually towed on wires at 50-foot midpoint range. Spade grips which are full-size facsimiles of the spade grips on the Browning Machine Gun, cal. .30, M2, water-cooled, are provided, and these recoil 600 times per minute when the gun is under operation. Loud speakers furnish gun blast sound at 600 blasts per minute, and general battle noise. Ultraviolet light with fluorescent pellets are used for training in darkness. Time of flight at 50 feet is similar to that of .50 cal. bullet at 500 yards. Training is for tracer control.

References

SNL A-56
Drawing No.
Specification No. AXS-1010
TM 9-221



RA PD 10125

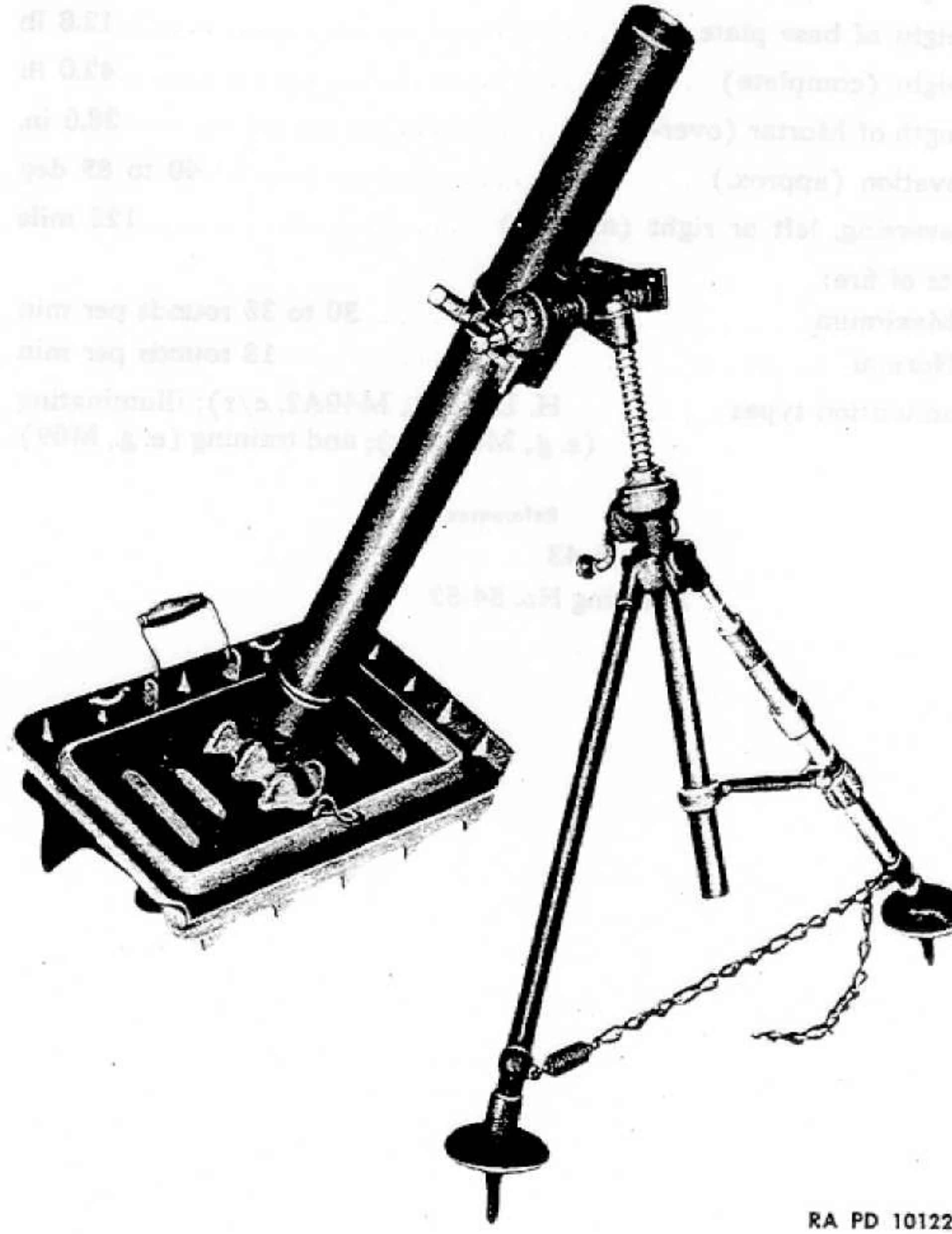
Figure 46—Mortar and Mount, 60-mm, M2

48. MORTAR AND MOUNT, 60-MM, M2.

Weight of mortar	12.8 lb
Weight of bipod	16.4 lb
Weight of base plate	12.8 lb
Weight (complete)	42.0 lb
Length of Mortar (over-all)	28.6 in.
Elevation (approx.)	40 to 85 deg
Traversing, left or right (approx.)	125 mils
Rate of fire:	
Maximum	30 to 35 rounds per min
Normal	18 rounds per min
Ammunition types	H. E. (*e. g.*, M49A2, c/r); illuminating (*e. g.*, M83, c/r); and training (*e. g.*, M69)

References

SNL A-43
Drawing No. 54-52



RA PD 10122

Figure 47—Mortar and Mount, 81-mm, M1

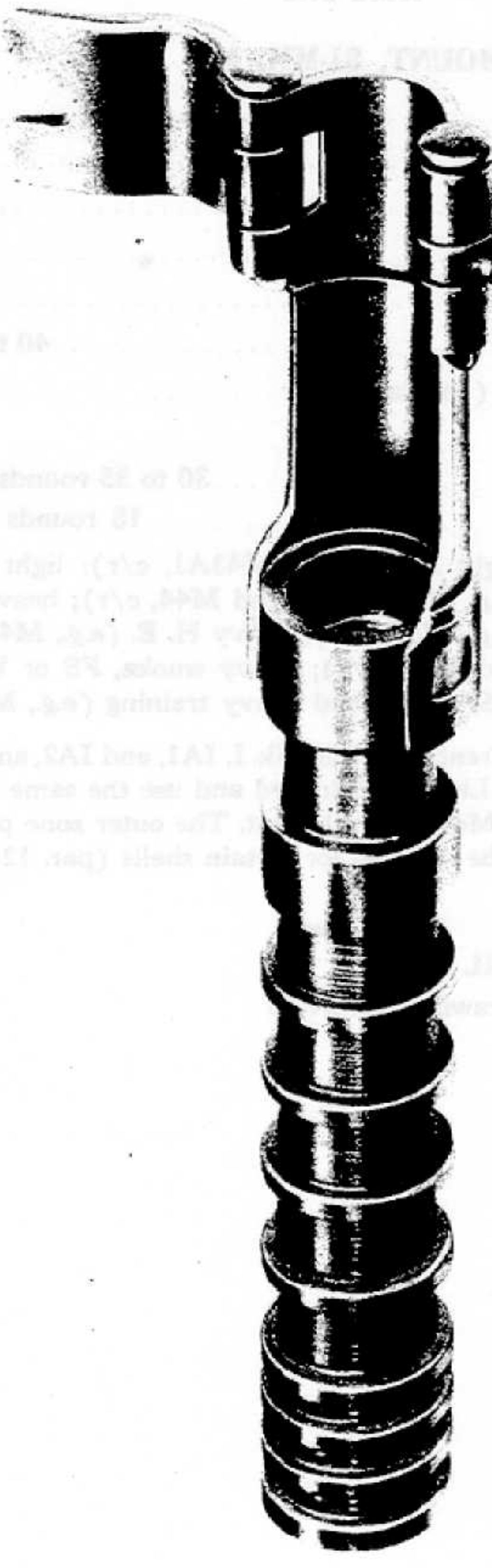
49. MORTAR AND MOUNT, 81-MM, M1.

Weight of mortar .... 44.5 lb
Weight of bipod .... 46.5 lb
Weight of base plate .... 45.0 lb
Weight (complete) .... 136.0 lb
Length of mortar (over-all) .... 44.5 in.
Elevation (approx.) .... 40 to 85 deg
Traversing, left or right (approx.) .... 90 mils
Rate of fire:
  Maximum .... 30 to 35 rounds per min
  Normal .... 18 rounds per min
Ammunition types .. Light H. E. (*e.g.,* M43A1, c/r); light practice (*e.g.,* M43A1, c/r and M44, c/r); heavy gas, H (*e.g.,* M57, c/r); heavy H. E. (*e.g.,* M45B1, c/r and M56, c/r); heavy smoke, FS or WP (*e.g.,* M57, c/r); and heavy training (*e.g.,* M68).

NOTE: The 3-inch Trench Mortar Mk. I, IA1, and IA2, and Mount Mk. II, are classified as Limited Standard and use the same ammunition as the 81-mm M1, Mortar and Mount. The outer zone propelling changes however must be reduced for certain shells (par. 126).

References

SNL A-33
Drawing No. 54-48



RA PD 69804

Figure 48—Launcher, Grenade, M1

50. LAUNCHER, GRENADE, M1.

Weight	0.53 lb
Length	7.1 in.
Outside diameter	0.86 in.
Diameter of bracket	0.68 in.
Diameter of bore	0.50 in.
Ammunition types	GRENADE, AT; GRENADE, AT, practise; GRENADE, rifle, fragmentation; ADAPTER, grenade projection with hand grenade; SIGNAL, ground (A1 models only)

NOTE: For use on Rifle, U. S., cal. .30, M1903, firing Cartridge, rifle grenade, cal. .30, M3.

References

SNL B-39
Drawing No. B200926



RA PD 69854

Figure 49—Launcher, Grenade, M2

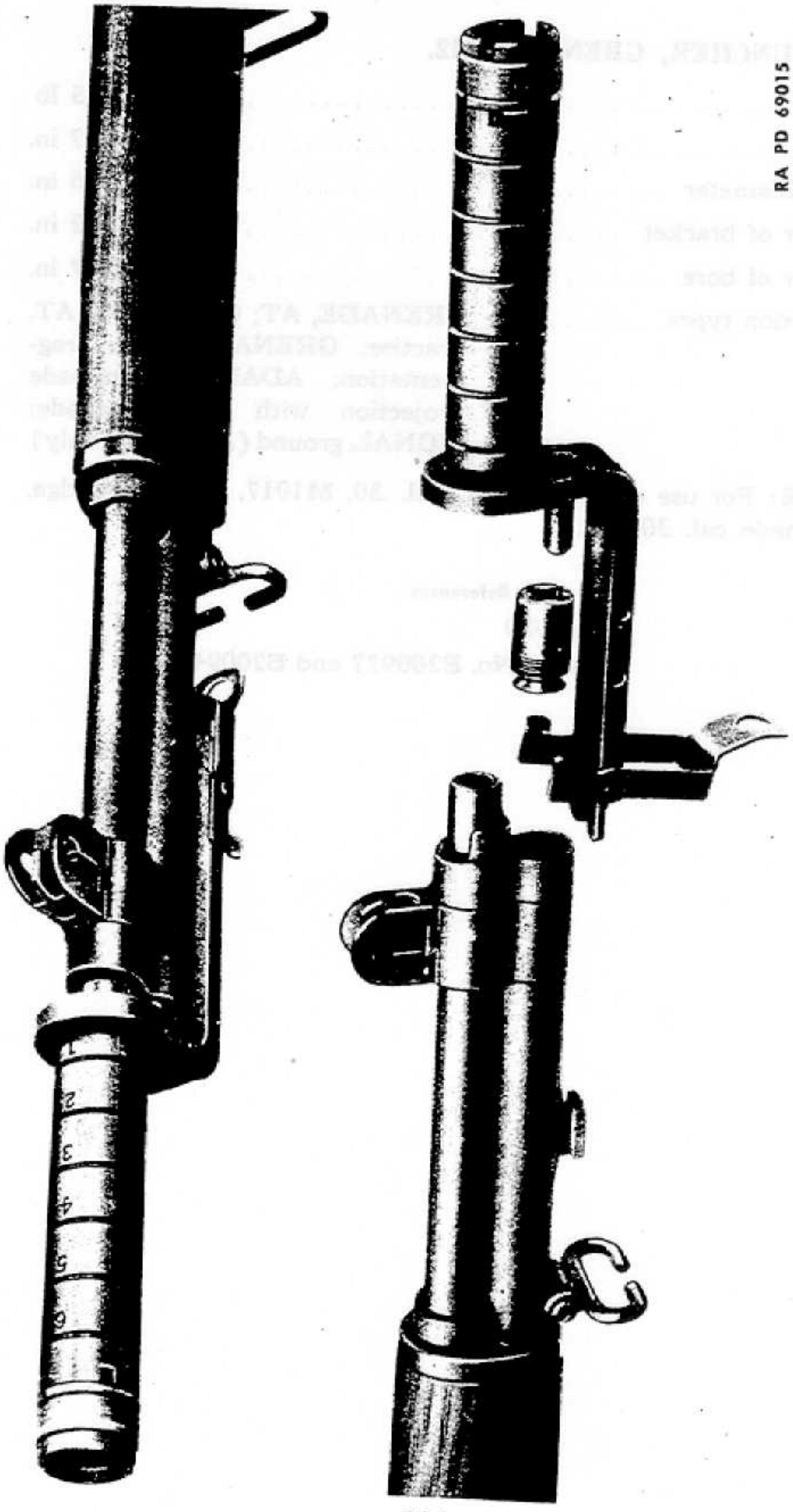
51. LAUNCHER, GRENADE, M2.

Weight	0.5 lb
Length	6.7 in.
Outside diameter	0.86 in.
Diameter of bracket	0.62 in.
Diameter of bore	0.47 in.
Ammunition types	GRENADE, AT; GRENADE, AT, practise; GRENADE, rifle, fragmentation; ADAPTER,. grenade projection with hand grenade; SIGNAL, ground (A1 models only)

NOTE: For use on Rifle, U. S., cal. .30, M1917, firing Cartridge, rifle grenade, cal. .30, M3.

References

SNL B-39
Drawing No. B200927 and B200947



RA PD 69015

Figure 50—Launcher, Grenade, M7 and Rifle, U. S., Cal. .30, M1

52. LAUNCHER, GRENADE, M7.

Weight	12 oz (0.75 lb)
Length	7.5 in.
Diameter bore	0.5 in.
Ammunition types	GRENADE, AT; GRENADE, AT, practise; GRENADE, rifle, fragmentation; ADAPTER, grenade projection with hand grenade; SIGNAL, ground (A1 models only)

NOTE: For use on Rifle, U. S., cal. .30, M1, firing Cartridge, rifle grenade, cal. .30, M1.

References

SNL B-39
Specification No. AXS-905

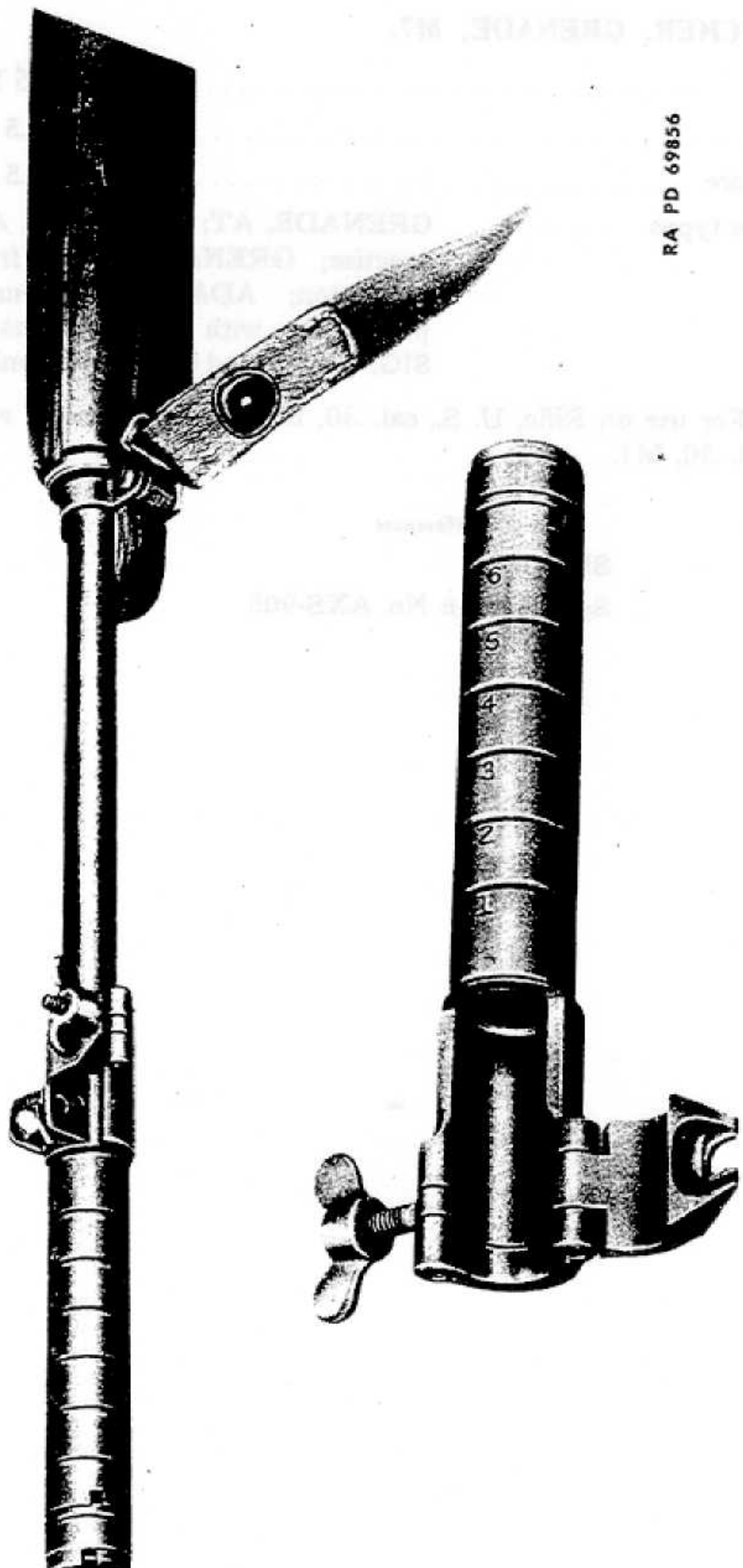


Figure 51—Launcher, Grenade, M8, and Carbine, Cal. .30, M1, M1A1

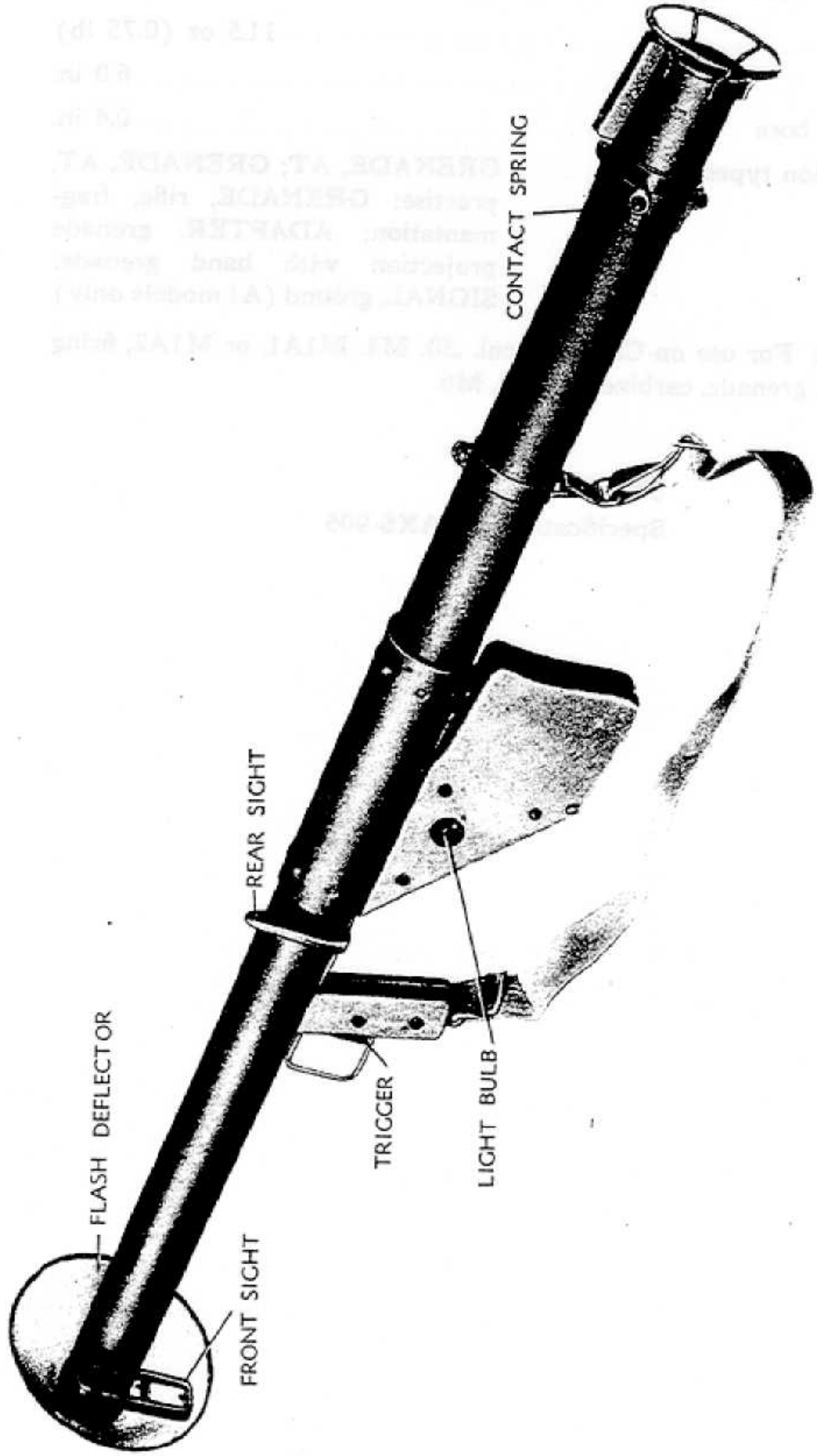
53. LAUNCHER, GRENADE, M8.

Weight	11.5 oz (0.75 lb)
Length	6.0 in.
Diameter bore	0.4 in.
Ammunition types	GRENADE, AT; GRENADE, AT, practise; GRENADE, rifle, fragmentation; ADAPTER, grenade projection with hand grenade; SIGNAL, ground (A1 models only)

NOTE: For use on Carbines, cal. .30, M1, M1A1, or M1A2, firing Cartridge, grenade, carbine, cal. .30, M6.

References

SNL B-39
Specification No. AXS-905



RA PD 79928

Figure 52A—Launcher, Rocket, A.T., 2.36-In., M1A1—Left Side View

WEAPONS

54. LAUNCHER, ROCKET, A.T., 2.36-in., M1A1.

Weight	13.01 lb
Length	54 in.
Diameter of tube	2.4 in.
Ignition	Electric
Ammunition types used	ROCKET, AT, 2.36", M6A1 ROCKET, AT, practice, 2.36", M7A1

References

SNL B-36
Drawing No. 41-1-1
Specification No. AXS-961
TB 200-6
TM 9-294

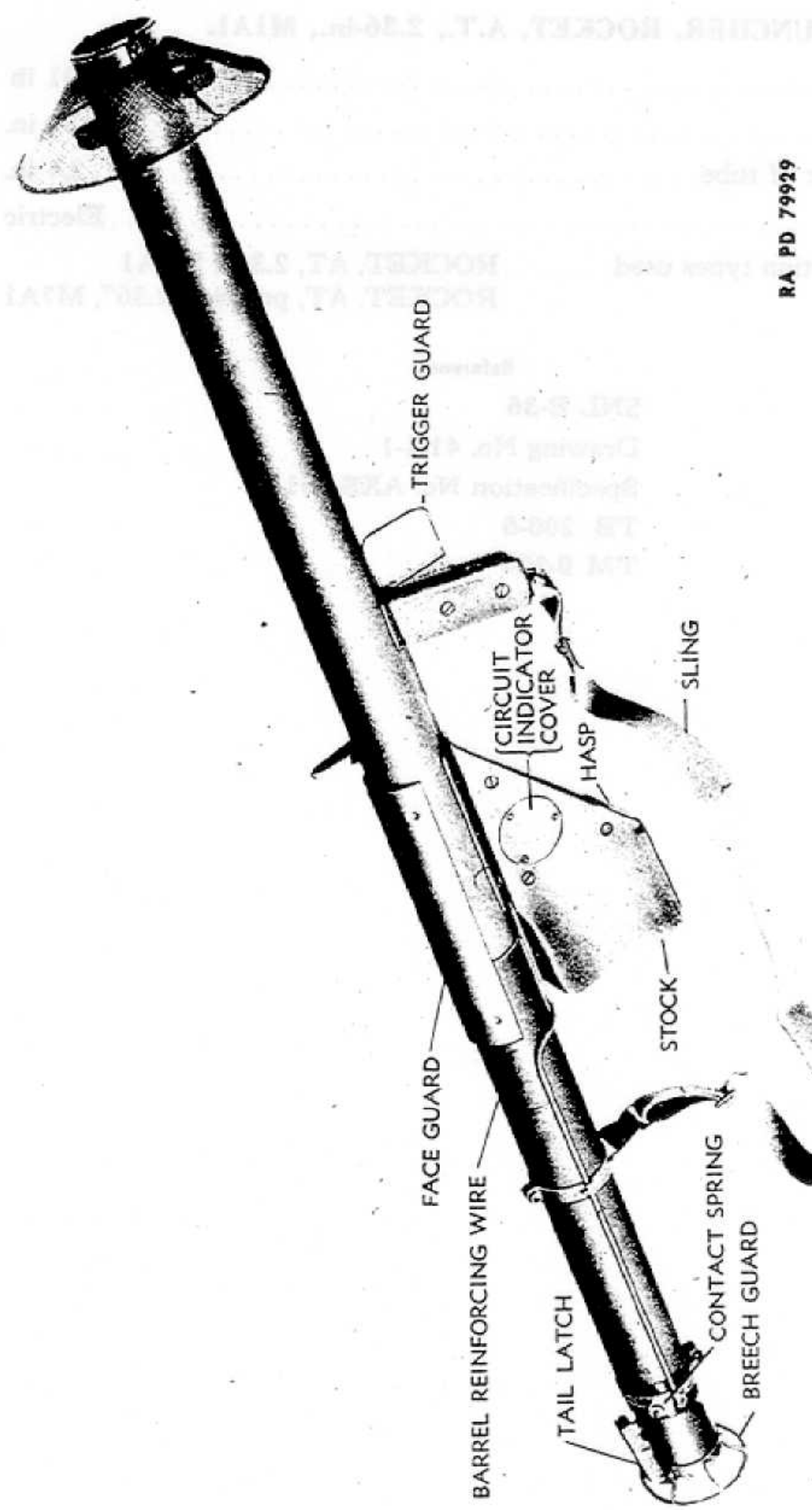


Figure 52B—Launcher, Rocket, A.T., 2.36-In., M1A1—Right Side View

Section III

MOUNTS

Paragraph

MACHINE GUN MOUNTS:

Mount, ring, machine gun, cal. .30, M41 55
Mount, tripod, machine gun, cal. .30, M2 56
Mount, tripod, machine gun, cal. .30, M1917A1 57
Mount, machine gun, cal. .50, AA, M2A1 (Tripod) 58
Mount, machine gun, cal. .50, AA, M3 (Navy designation Mk. 30) 59
Mount, pedestal, machine gun, cal. .50, AA, M2A1 60
Mount, pedestal, machine gun, cal. .50, M39 (Navy designation Mk. 21) 61
Mount, pedestal, machine gun, cal. .50, M43 (Navy designation Mk. 21) 62
Mount, pedestal, machine gun, twin, cal. .50, M46 (Navy designation Mk. 22) 63
Mount, tripod, machine gun, cal. .50, M3 64
Elevator cradle, AA, cal. .50, M1 (for Mount, tripod, machine gun, cal. .50, M3) 65

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

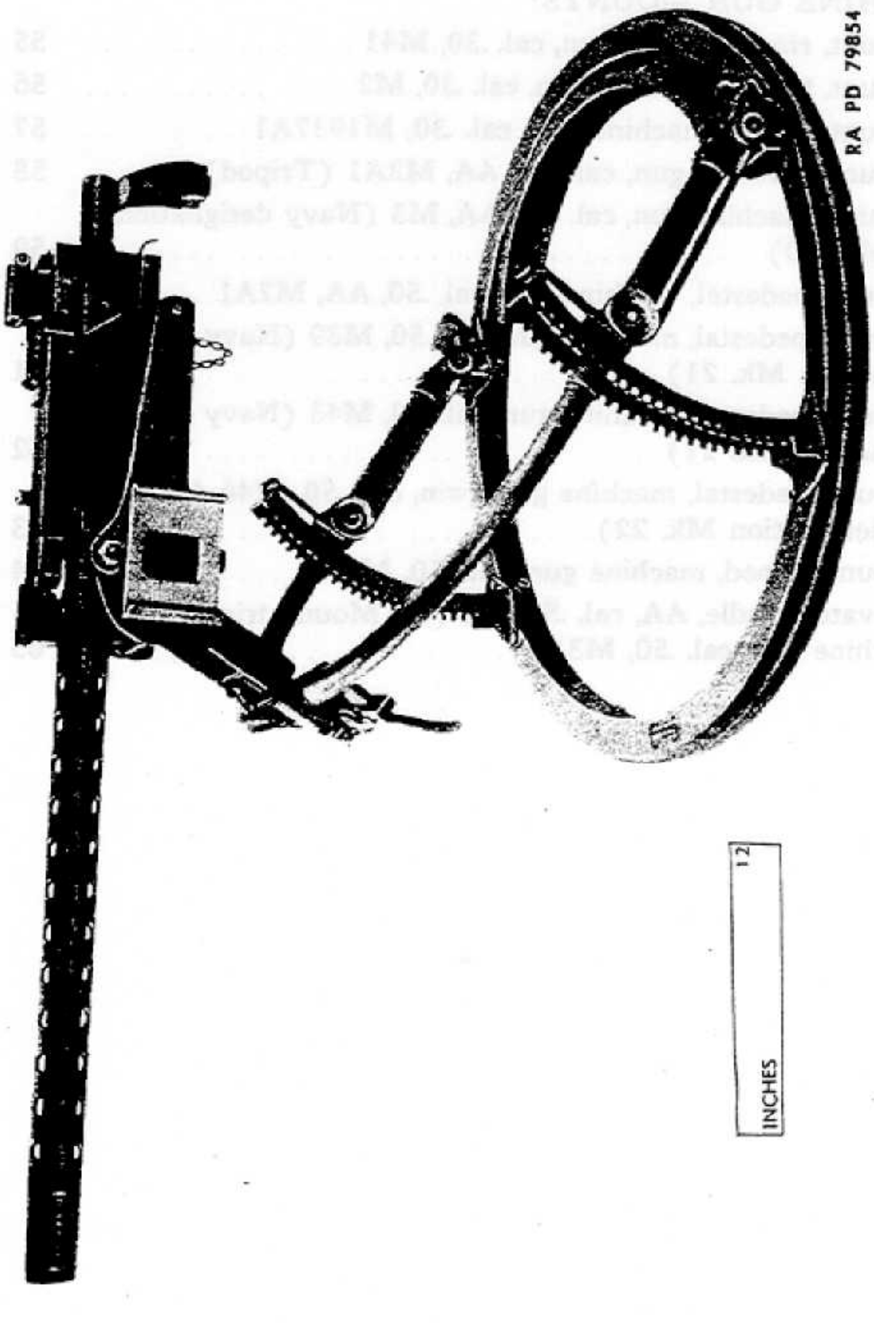


Figure 53—Mount, Ring, Machine Gun, Cal. .30, M41

55. MOUNT, RING, MACHINE GUN, CAL. .30, M41.

Weight (approx.)	60 lb
Ring, diameter at base	31.8 in.
Working space	26.5 in.
Command, highest elevation	29 in.
Traverse	360 deg
Elevation	90 deg
Armor plate	None
Tactical use	Antiaircraft fire

NOTE: For use with Gun, machine, cal. .30, Browning, M1917A1 and Gun, machine, cal. .30, Browning, M1919A4.

References

SNL A-55
Specification No. 52-8-23

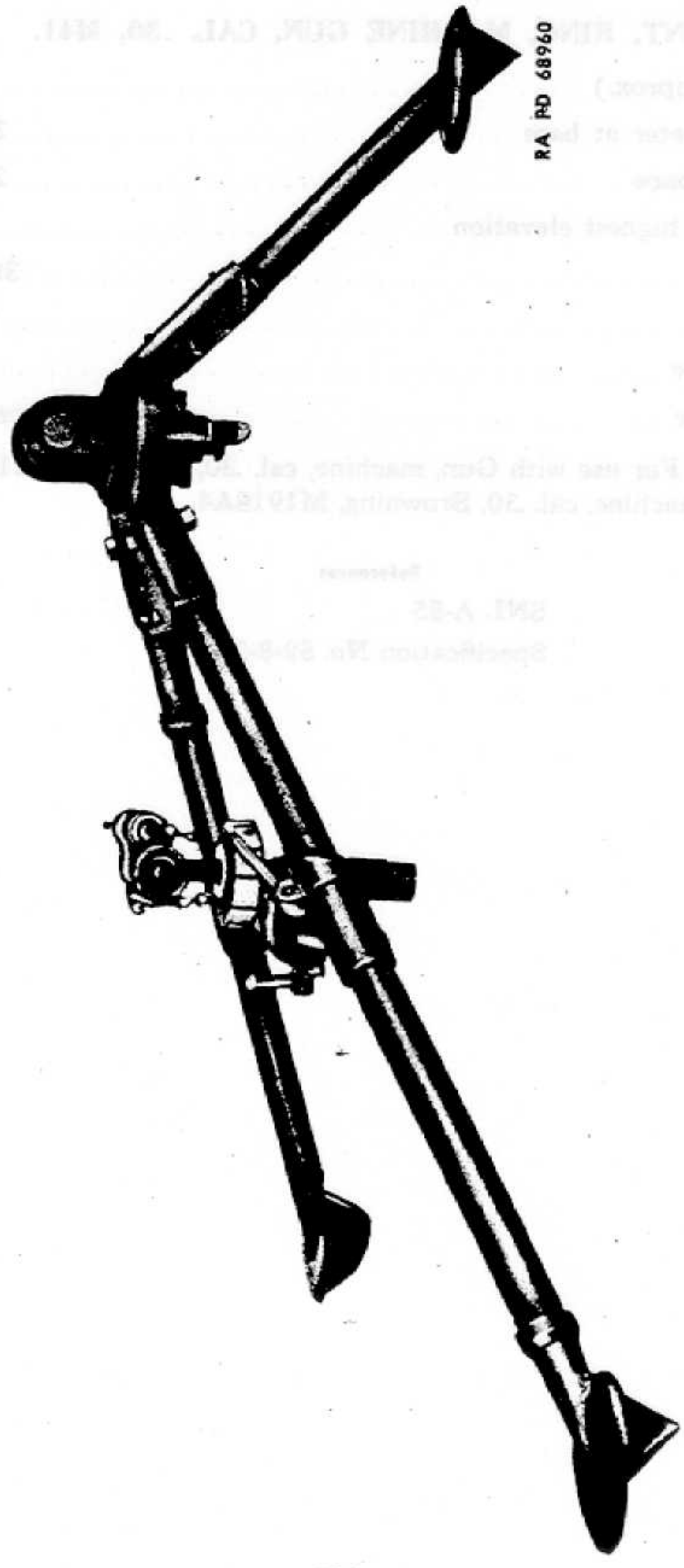


Figure 54—Mount, Tripod, Machine Gun, Cal. .30, M2

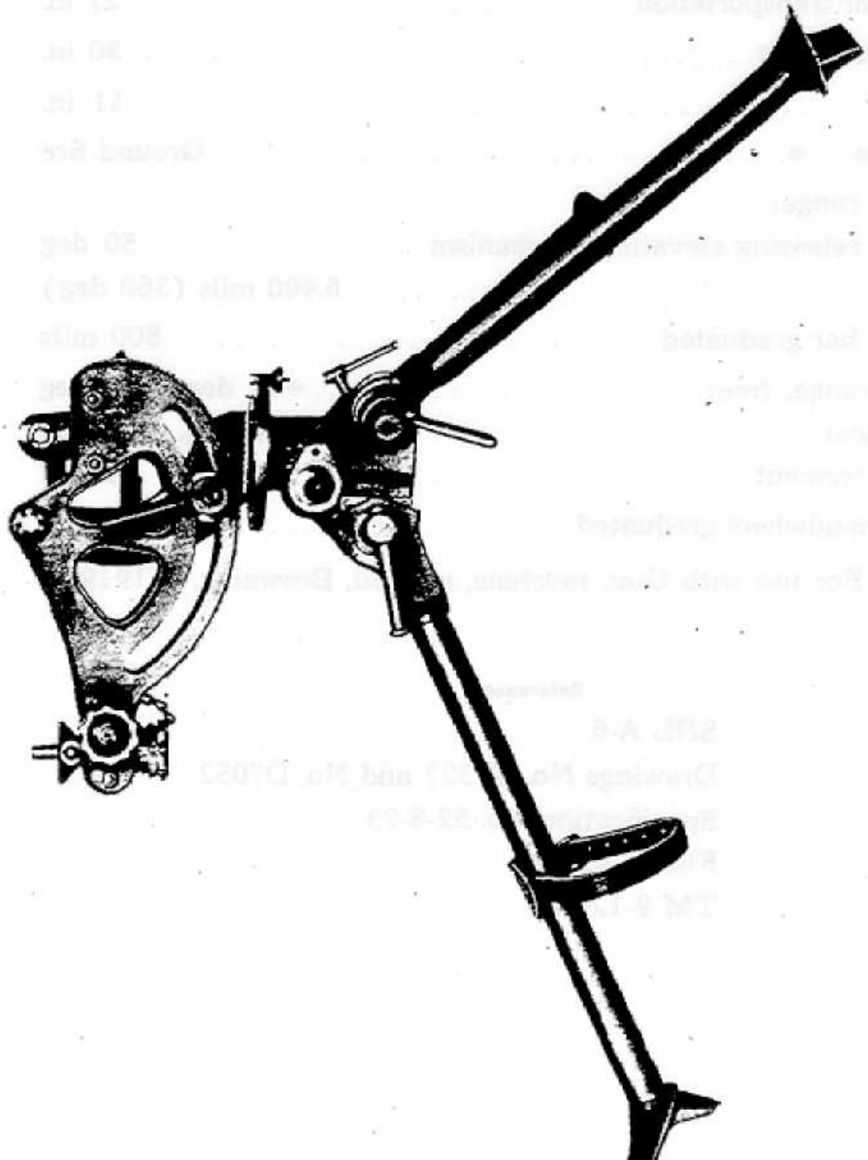
56. MOUNT, TRIPOD, MACHINE GUN, CAL. .30, M2.

Weight	14 lb
Length:	
Extended	32.5 in.
Folded for transportation	27 in.
Spread of rear legs	30 in.
Command	11 in.
Tactical use	Ground fire
Traversing range:	
Without releasing elevating mechanism	50 deg
Free	6,400 mils (360 deg)
Traversing bar graduated	800 mils
Elevating range, free:	+21 deg, −45 deg
Mechanical	+19 deg, −25 deg
Least increment	1 mil
Elevating handwheel graduated	Every mil

NOTE: For use with Gun, machine, cal. .30, Browning, M1919A4 (flexible).

References

SNL A-6
Drawings No. D7327 and No. D7052
Specification No. 52-8-23
FM 23-45
TM 9-1205



RA PD 68961

Figure 55—Mount, Tripod, Machine Gun, Cal. .30, M1917A1

57. MOUNT, TRIPOD, MACHINE GUN, CAL. .30, M1917A1.

Weight	53.2 lb
Length:	
Extended	42 in.
Folded for transportation	36 in.
Spread of front legs, extended	39 in.
Command	23 in.
Tactical use	Ground and antiaircraft fire
Traversing range:	
Mechanical	50 mils
Least increment	1 mil
Free	6,400 mils (360 deg)
Traversing dial graduated	Every 20 mils for 6,400 mils
Elevating limits, free	+1,156 mils (65 deg) —498 mils (28 deg)
Elevating limits, mechanical range:	50 mils
Least increment	1 mil
Elevating arc graduated	Every 25 mils for 900 mils
Depression in cradle slots	500 mils (28 deg) max
Depression within graduation on elevating arc	400 mils (22.5 deg) max

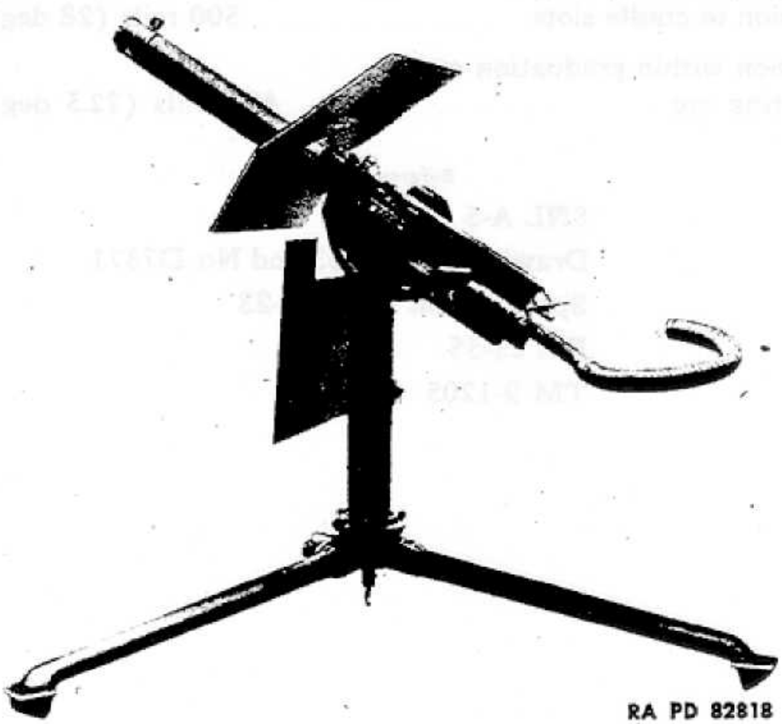
References

SNL A-5
Drawing No. D7553 and No. D7371
Specification No. 52-8-23
FM 23-55
TM 9-1205



RA PD 82817

Figure 56—Mount, Machine Gun, Cal. .50, AA, M2A1 (Tripod)



RA PD 82818

Figure 57—Mount, Machine Gun, Cal. .50, AA, M2A1 (Tripod) (with Armor Plate)

58. MOUNT, MACHINE GUN, CAL. .50, AA, M2A1 (TRIPOD).

Weight tripod mount complete (no armor plate)	375 lb
Weight of pedestal (without base)	117 lb
Weight of cradle	119 lb
Weight of back rest	17 lb
Weight of sight, AA, cal. .50, M1	10 lb
Weight of legs	112 lb
Weight of tripod mount complete (with armor plate)	502 lb
Weight, upper shield (armor)	72 lb
Weight, lower shield (armor)	46 lb
Weight, bracket (armor)	8.5 lb
Tripod spread, front to rear	77 in.
Tripod spread, right to left	90 in.
Length of body leg	37.6 in.
Developed length of body leg	41.9 in.
Command	48.8 in.
Height of sights above ground	74.2 in.
Traverse	360 deg
Elevating limits	+60 deg, −15 deg
Tactical use	Antiaircraft fire

NOTE: For use with Gun, machine, cal. .50, Browning, M2, water-cooled, flexible (without spade grips). Tripod legs are of equal length, requiring a circle 104 inches in diameter, and are removable, for replacement with pedestal base for fixed installations. Armor consists of two shields of ¼-inch armor plate 32 inches wide. This mount, when fitted with pedestal base in place of tripod legs, is known as Mount, machine gun, cal. .50, AA, M2A1 (pedestal). Use of Sight, AA, cal. .50, M1, when using armor on above mount is optional.

References

SNL A-37
Drawing No. D32950 and No. D33136
Specification No. 52-8-23
TM 9-226

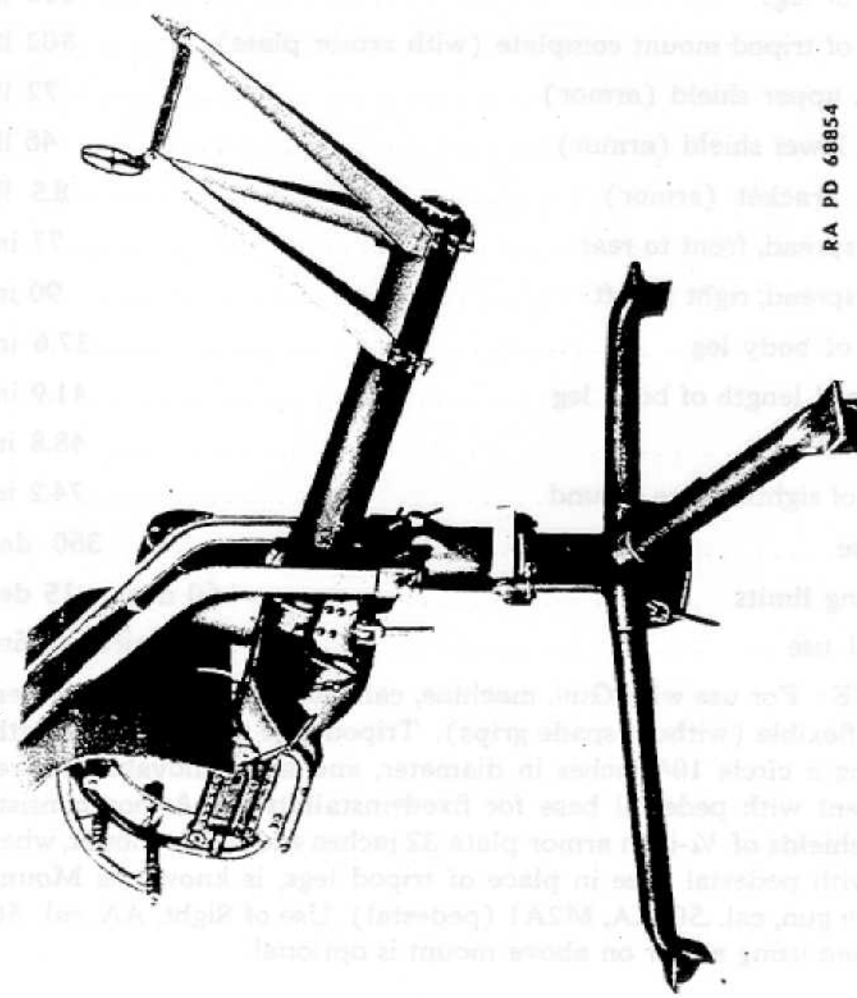


Figure 58—Mount, Machine Gun, Cal. .50, AA, M3 (Navy Designation Mk. 30)

59. MOUNT, MACHINE GUN, CAL. .50, AA, M3 (NAVY DESIGNATION MK. 30).

Weight, complete (with armor plate)	380 lb
Weight of pedestal assembly	112 lb
Weight of cradle and carriage (less shield)	120 lb
Weight of legs	81 lb
Weight of sight	10 lb
Weight of armor shield (pedestal)	39 lb
Weight of armor shield (carriage)	18 lb
Space required, axially	73.6 in.
Space required, transversely	84.8 in.
Radius of legs	49 in.
Command	37.1 in.
Height of sights above ground	62.9 in.
Distance, front sight forward of column	51.6 in.
Sight radius	12 in.
Traverse	Unlimited, 360 deg
Elevating limits	+90 deg, −15 deg
Sight control	None
Tactical use	Antiaircraft fire

NOTE: For use with Gun, machine, cal. .50, Browning, M2, water-cooled, flexible; also can be fitted to any other Gun, machine, cal. .50, Browning, M2, by addition of suitable counterweight (41.5 lb).

References

SNL A-37
Drawing No. 1-128-1
Specification No. 52-8-23



RA PD 69803

Figure 59—Mount, Pedestal, Machine Gun, Cal. 50, AA, M2A1 (Without Armor Plate)

60. MOUNT, PEDESTAL, MACHINE GUN, CAL. .50, AA, M2A1.

Weight, pedestal mount complete (no armor plate)	315 lb
Weight of pedestal	117 lb
Weight of pedestal base	52 lb
Weight of cradle	119 lb
Weight of back rest	17 lb
Weight of Sight, AA, cal. .50, M1	10 lb
Weight, pedestal mount complete (with armor plate)	442 lb
Weight of upper shield (armor)	72 lb
Weight of lower shield (armor)	46 lb
Weight of bracket (armor)	8.5 lb
Command	48.8 in.
Height of sights above ground	74.2 in.
Traverse	360 deg
Elevating limits	+69 deg, −15 deg
Tactical use	Antiaircraft fire

NOTE: For use with Gun, machine, cal. .50, M2, Browning, water-cooled, flexible (without spade grips). Armor consists of two shields of ¼-inch armor plate 32 inches wide. This mount is identical with the Mount, machine gun, cal. .50, AA, M2A1 (tripod) except that a pedestal base has been substituted for the tripod legs. The tripod legs and pedestal base are readily interchangeable for this mount. Use of Sight, AA, cal. .50, when using armor on above mounts is optional.

References

SNL A-37
Drawing No. D32950 and D33136
Specification No. 52-8-23
TM 9-226


RA PD 68859

Figure 60—Mount, Pedestal, Machine Gun, Cal. .50, M39 (Navy Designation Mk. 21)

61. MOUNT, PEDESTAL, MACHINE GUN, CAL. .50, M39 (NAVY DESIGNATION MK. 21).

Weight, complete with sights, but without gun or ammunition chest	725 lb
Pedestal, fixed: diameter at base	30 in.
Working space	40 in. max radius
Command	48.5 in.
Height of sights above ground	64.1 in.
Traverse	Unlimited, 360 deg
Elevating limits	+ 80, − 10 deg
Shield (armor plate)	0.5 in.
Tactical use	Antiaircraft fire

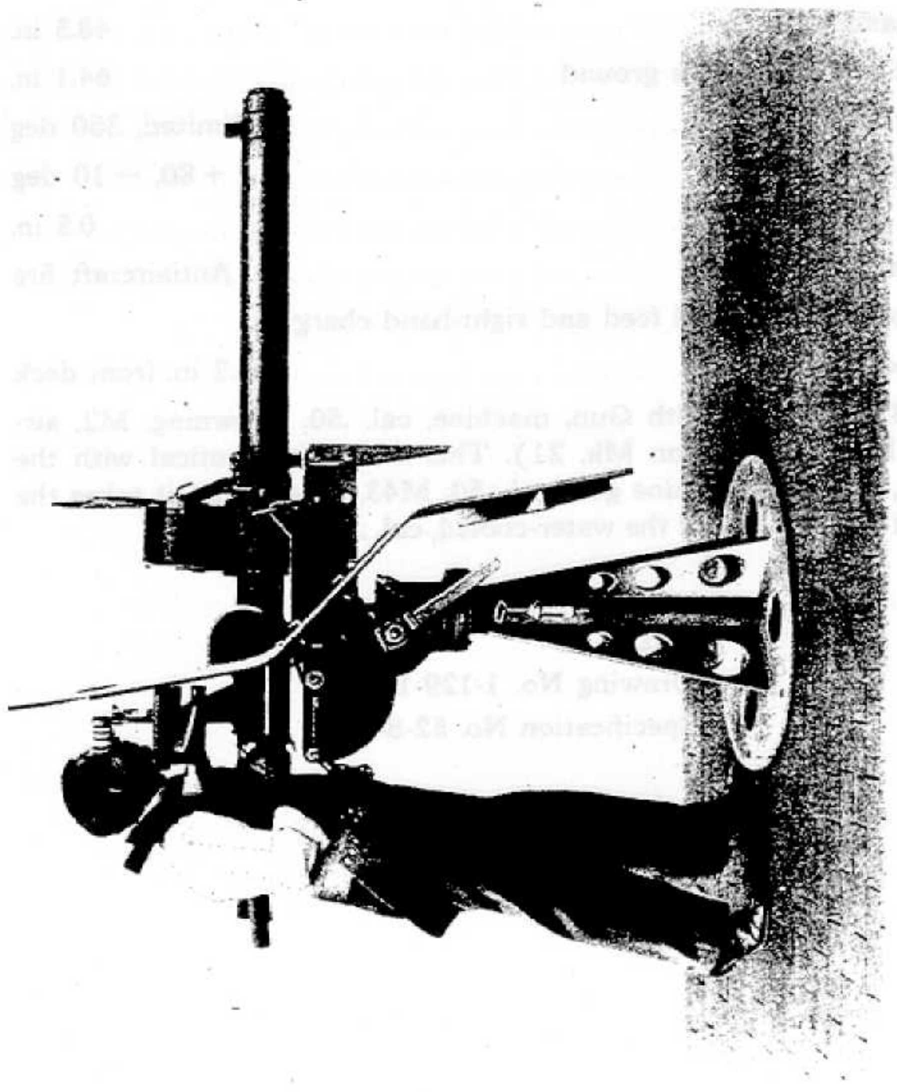
Equipped for left-hand feed and right-hand charging.

Eyepiece	64.2 in. from deck

NOTE: For use with Gun, machine, cal. .50, Browning, M2, aircraft (Navy designation Mk. 21). This mount is identical with the Mount, pedestal, machine gun, cal. .50, M43, except that it takes the aircraft gun in place of the water-cooled, cal. .50 gun.

References

SNL A-55
Drawing No. 1-129-1A
Specification No. 52-8-23



RA PD 68853

Figure 61—Mount, Pedestal, Machine Gun, Cal. .50, M43 (Navy Designation Mk. 21)

MOUNTS

62. MOUNT, PEDESTAL, MACHINE GUN, CAL. .50, M43 (NAVY DESIGNATION MK. 21).

Weight, complete with sights, but without gun or ammunition chest	725 lb
Pedestal, fixed: diameter at base	30 in.
Working space	40 in. max radius
Command	48.5 in.
Height of sights above ground	64.1 in.
Traverse	360 deg
Elevating limits	+ 80, − 10 deg
Shield (armor plate)	0.5 in.
Tactical use	Antiaircraft fire

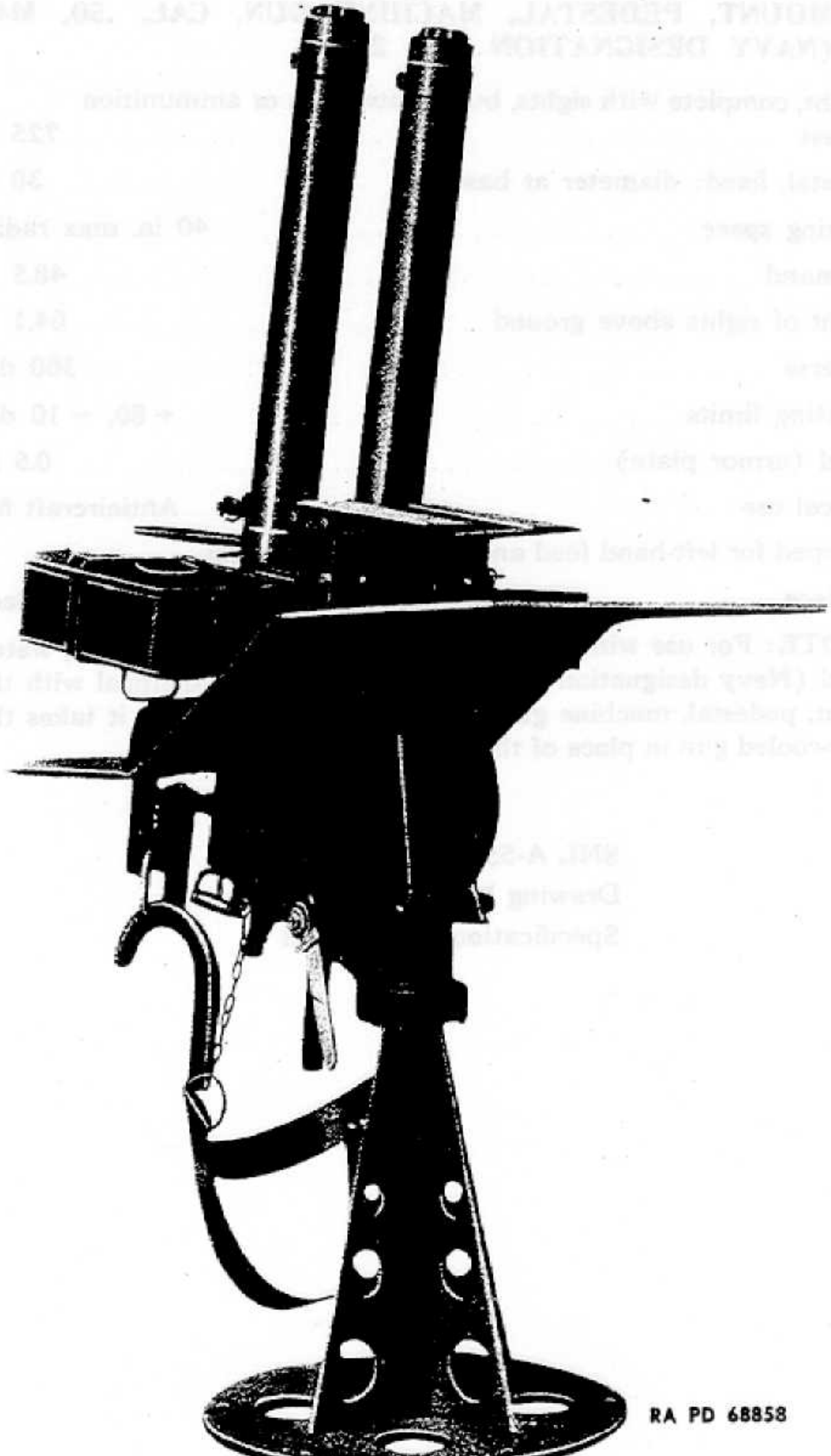
Equipped for left-hand feed and right-hand charging.

Eyepiece	64.2 in. from deck

NOTE: For use with Gun, machine, cal. .50, Browning, M2, water-cooled (Navy designation Mk. 21). This mount is identical with the Mount, pedestal, machine gun, cal. .50, M39, except that it takes the water-cooled gun in place of the aircraft, cal. .50 gun.

References

SNL A-55
Drawing No. 1-129-1A
Specification No. 52-8-23



RA PD 68858

Figure 62—Mount, Pedestal, Machine Gun, Twin, Cal. .50, M46 (Navy Designation Mk. 22)

63. MOUNT, PEDESTAL, MACHINE GUN, TWIN, CAL. .50, M46 (NAVY DESIGNATION MK. 22).

Weight, complete with sights, but without gun or ammunition chest	825 lb
Pedestal, fixed: diameter at base	30 in.
Working space	40 in. max radius
Command	48.5 in.
Height of sights above ground	64.1 in.
Traverse	360 deg
Elevating limits	+ 81, − 10 deg
Shield (armor plate)	3/8 in.

Adjustable padded shoulder supports and seat.

Equilibrator spring in pedestal to control mount.

NOTE: For use with:

Gun, machine, cal. .50, Browning, M2, WC
Gun, machine, cal. .50, Browning, M2, AC
Gun, machine, cal. .50, Browning, M2, HB

References

SNL A-55
Drawing No. 1-131-1A
Specification No. 52-8-23

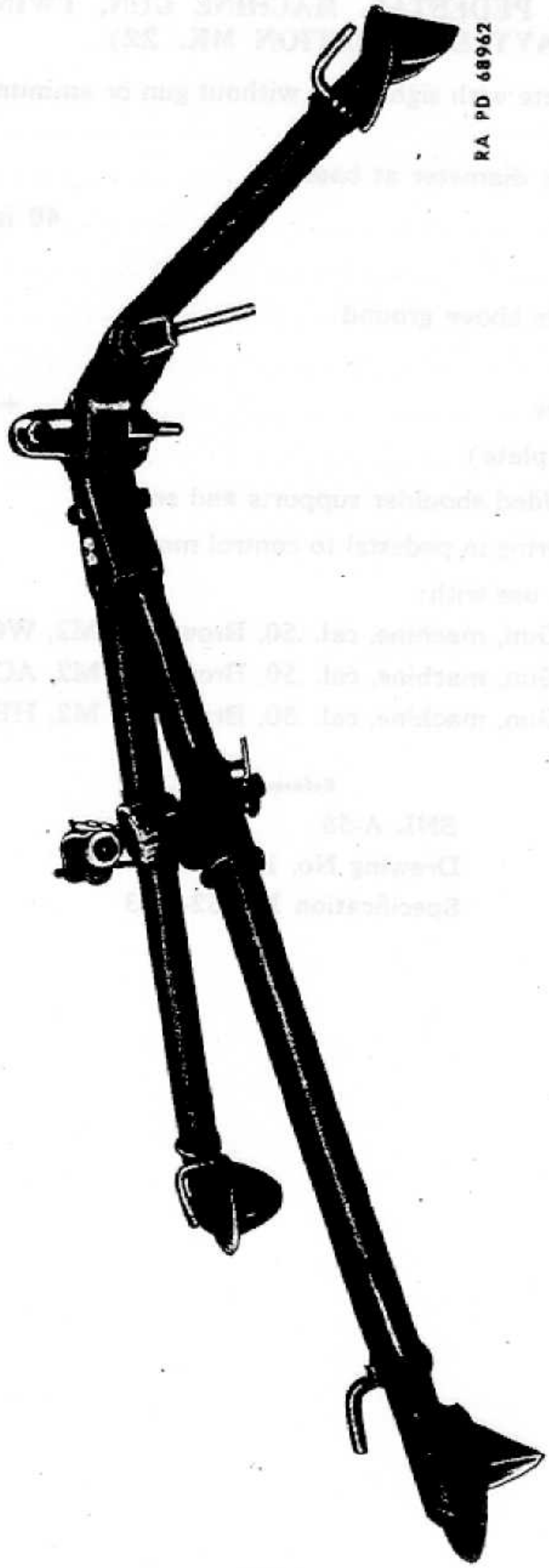


Figure 63—Mount, Tripod, Machine Gun, Cal. .50, M3

MOUNTS

64. MOUNT, TRIPOD, MACHINE GUN, CAL. .50, M3.

Weight	44 lb
Length, folded for transportation	41 in.
Length:	
Leg extensions retracted	52 in.
Leg extensions extended	71 in.
Spread of rear legs:	
Leg extensions retracted	44 in.
Leg extensions extended	60 in.
Gun trunnions above ground:	
Leg extensions retracted	10 in.
Leg extensions extended	13 in.
Tactical use	Ground fire
Traversing range:	
Free	6,400 mils (360 deg)
Without releasing elevating mechanism	800 mils
Traversing bar graduated	Every 5 mils for 800 mils
Elevating range	+100 mils, —250 mils
Elevating range, least increment	1 mil
Elevating handwheel graduated	Every mil

NOTE: For use with Gun, machine, cal. .50, Browning, M2, HB.

References

SNL A-39
OFSC 42
Drawing No. D7334 and D7135
Specification No. 52-8-23
FM 23-60



RA PD 82820

Figure 64—Elevator Cradle, AA, Cal. .50, M1 (for Mount, Tripod, Machine Gun, Cal. .50, M3)

65. ELEVATOR CRADLE, AA, CAL. .50, M1 (FOR MOUNT, TRIPOD, MACHINE GUN, CAL. .50, M3).

Weight, complete assembly (approx.)	90 lb
Weight of pintle and cradle	18.2 lb
Weight of elevator (approx.)	30 lb
Weight of M3 tripod mount (less pintle)	42 lb
Length:	
Leg extensions retracted	52 in.
Leg extensions extended	71 in.
Spread of rear legs:	
Leg extensions retracted	44 in.
Leg extractions extended	60 in.
Command	58½ in.
Traverse	360 deg
Elevating limits	+82 deg, 16 deg
Tactical use	Antiaircraft fire

NOTE: Used as standard accessory for Mount, tripod, machine gun, cal. .50, M3.

Section IV

PYROTECHNIC PROJECTORS

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Discharger, pyrotechnic, AN-M5	73



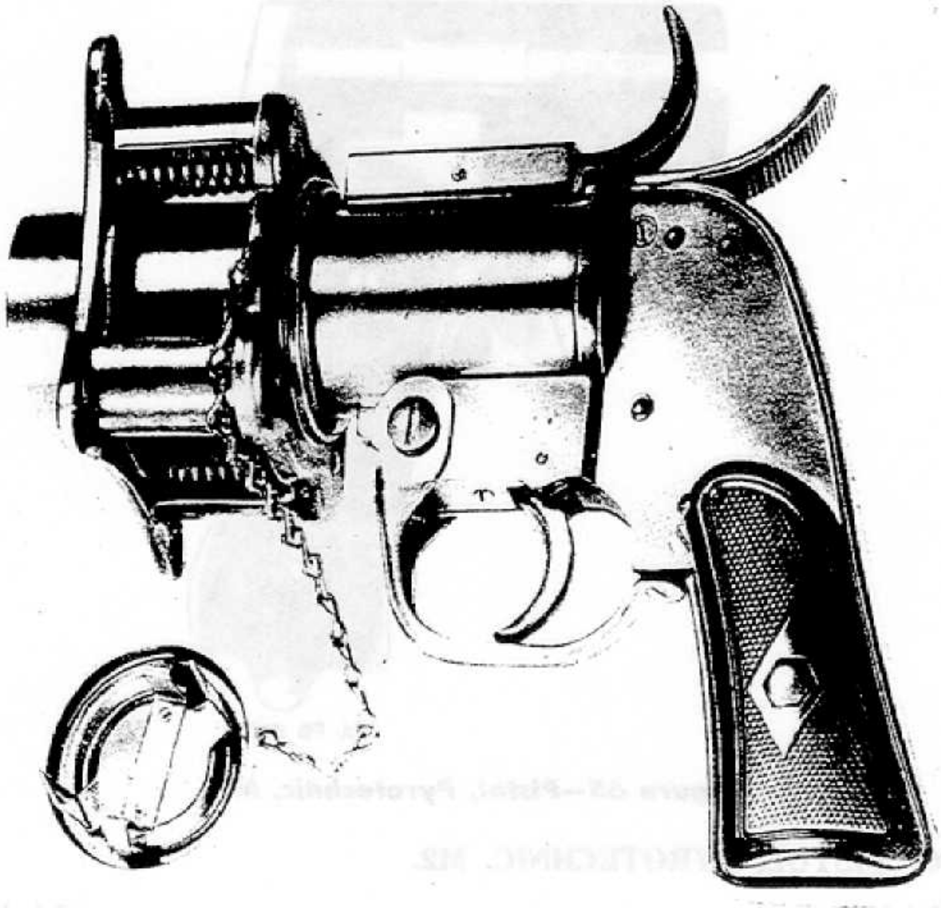
Figure 65—Pistol, Pyrotechnic, M2

66. PISTOL, PYROTECHNIC, M2.

Weight	3.1 lb
Length of barrel	2.15 in.
Height	7.4 in.
Diameter of bore	1.56 in.
Trigger pull	20 to 22 lb

References

SNL B-18
Drawing No. 42-26
Specification No. 52-3-15A
TM 9-1290



RA PD 50904

Figure 66—Pistol, Pyrotechnic AN-M8 with Mount M1 —Left Side View

67. PISTOL, PYROTECHNIC, AN-M8, WITH MOUNT M1.

Weight of pistol	2.1 lb
Weight of pistol and mount	3.2 lb
Length (over-all)	8.2 in.
Length of pistol and mount (over-all)	9.9 in.
Height	8.4 in.
Length of barrel	4.12 in.
Diameter of bore	1.58 in.
Trigger pull	5.8 lb

Ammunition . AN-M37 through M45 (army-navy type, rimmed); AN-M28 through M36 (interim type, rimless); M11, M14, M15, M16 aircraft (long case, rimless; all except M14 are parachute types)

References

SNL B-33	Specification No. AXS-658
Drawing No. 42-44-1A	TM 9-290; TM 9-1290

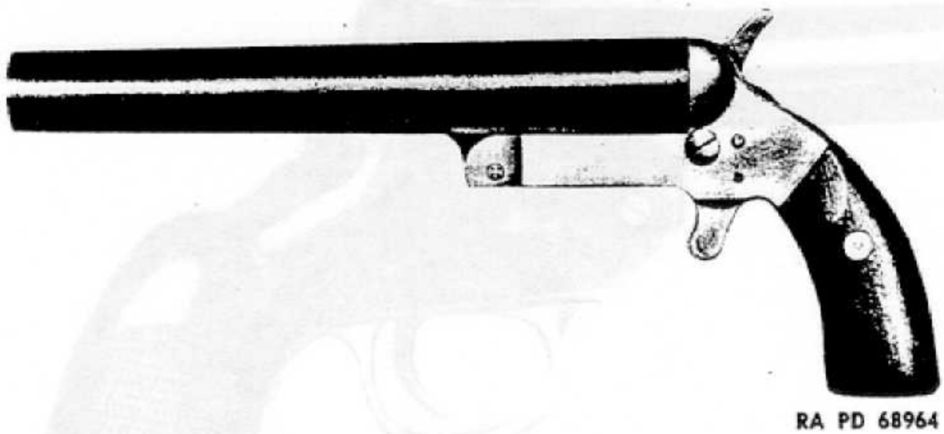


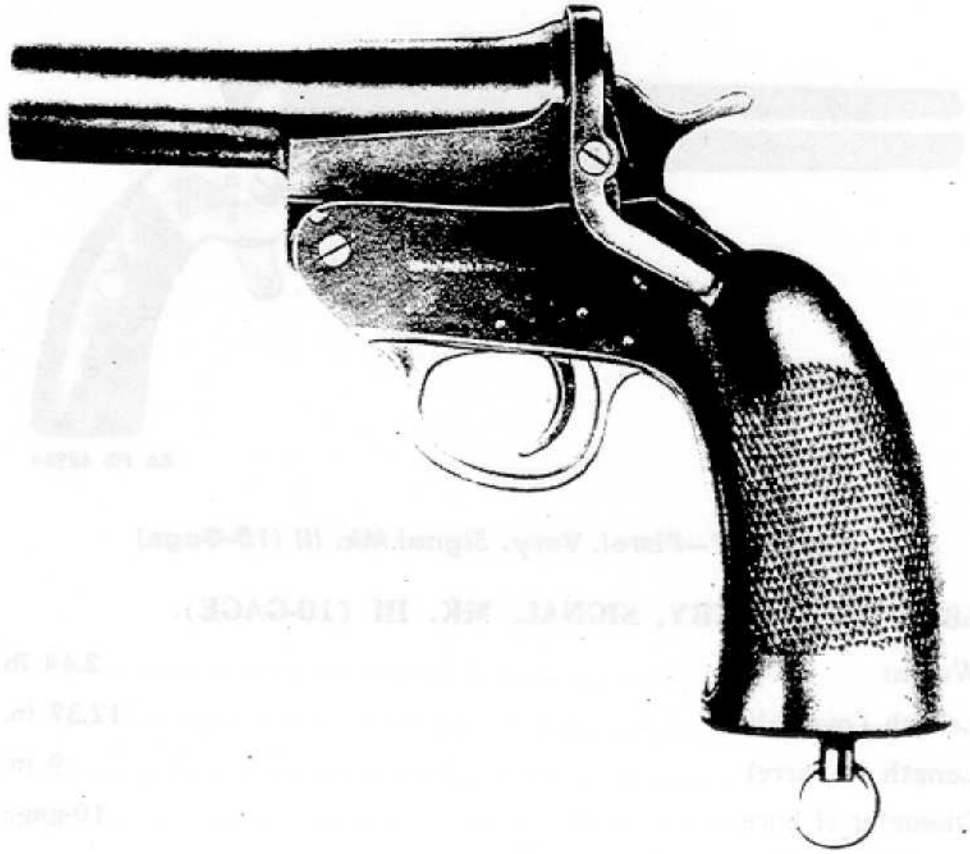
Figure 67—Pistol, Very, Signal Mk. III (10-Gage)

68. PISTOL, VERY, SIGNAL, MK. III (10-GAGE).

Weight	2.44 lb
Length (over-all)	12.37 in.
Length of barrel	9 in.
Diameter of bore	10-gage

References

SNL B-23
Drawing No. 78-2-1
TM 9-1290
TM 9-290



RA PD 50757

Figure 68—Pistol, Very, M5

69. PISTOL, VERY, M5.

Weight	1.6 lb
Length	7.5 in.
Trigger pull	6 lb
Diameter of bore	10-gage
Length of bore	4.31 in.

References

SNL B-23
Drawing No. D3990
TM 9-290
TM 9-1290



RA PD 51588

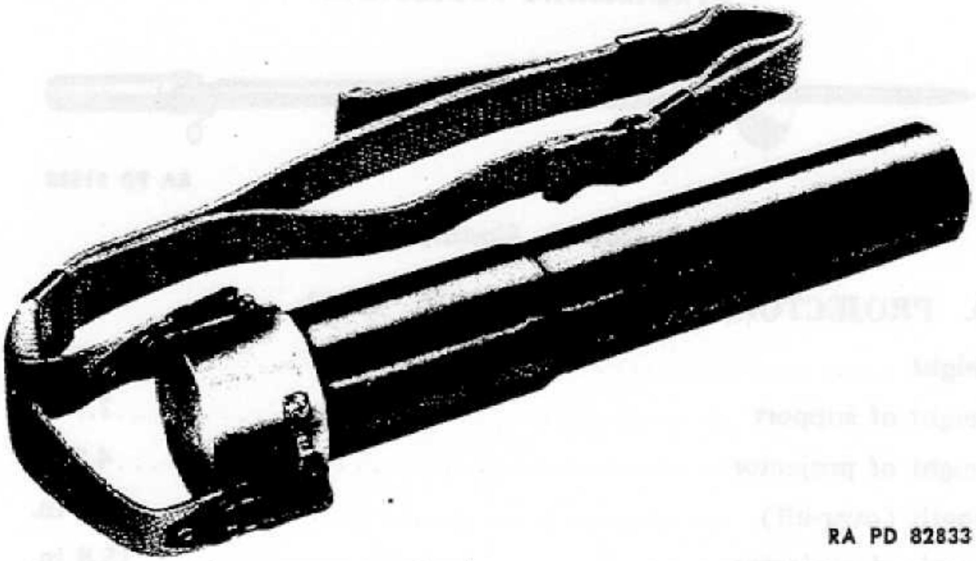
Figure 69—Projector, Signal, Ground, M1A1

70. PROJECTOR, SIGNAL, GROUND, M1A1.

Weight	12.4 lb
Weight of support	7.7 lb
Weight of projector	4.7 lb
Length (over-all)	48.8 in.
Length of projector	15.8 in.
Length of spike	10.8 in.
Length of barrel	11.6 in.
Diameter of bore	1.64 in.
Ammunition	Signals, ground, M17 through M22

References

SNL B-19
Drawing No. 78-2-265
Specification No. 52-3-16
TM 9-290
TM 9-1290



RA PD 82833

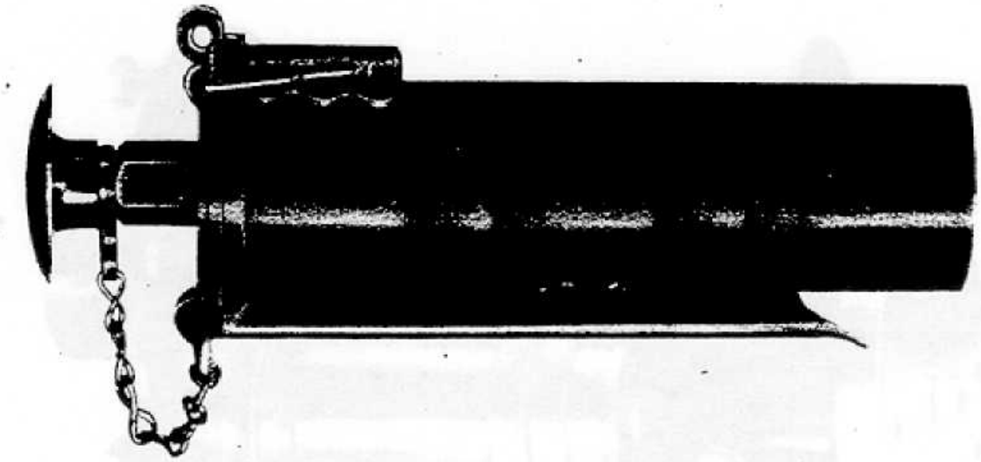
Figure 70—Projector, Signal, Ground, M4

71. PROJECTOR, SIGNAL, GROUND, M4.

Weight	2.6 lb
Length	11.9 in.
Diameter of bore	1.66 in.
Length of bore	11.6 in.
Ammunition	SIGNALS, ground, M17 to M22 series

References

SNL B-24
Drawing No. C64313
Specification No. SXS-112
TM 9-290
TM 9-292
TM 9-1290
TM 9-1292



RA PD 57301

Figure 71—Projector, Pyrotechnic, Hand, M9

72. PROJECTOR, PYROTECHNIC, HAND, M9.

Weight	14 oz (0.87 lb)
Length (over-all)	7.6 in.
Length of barrel	6.12 in.
Diameter of bore	1.58 in.
Ammunition	AN-M37 through M45 (army-navy type, rimmed); AN-M28 through M36 (interim type, rimless); and M11, M14, M15, and M16 aircraft (long case, rimless, all except M14 are parachute types)

References

SNL B-38
Drawing: no ordnance drawing (commercial item)
Specification No. AXS-812
TM 9-290
TM 9-1290

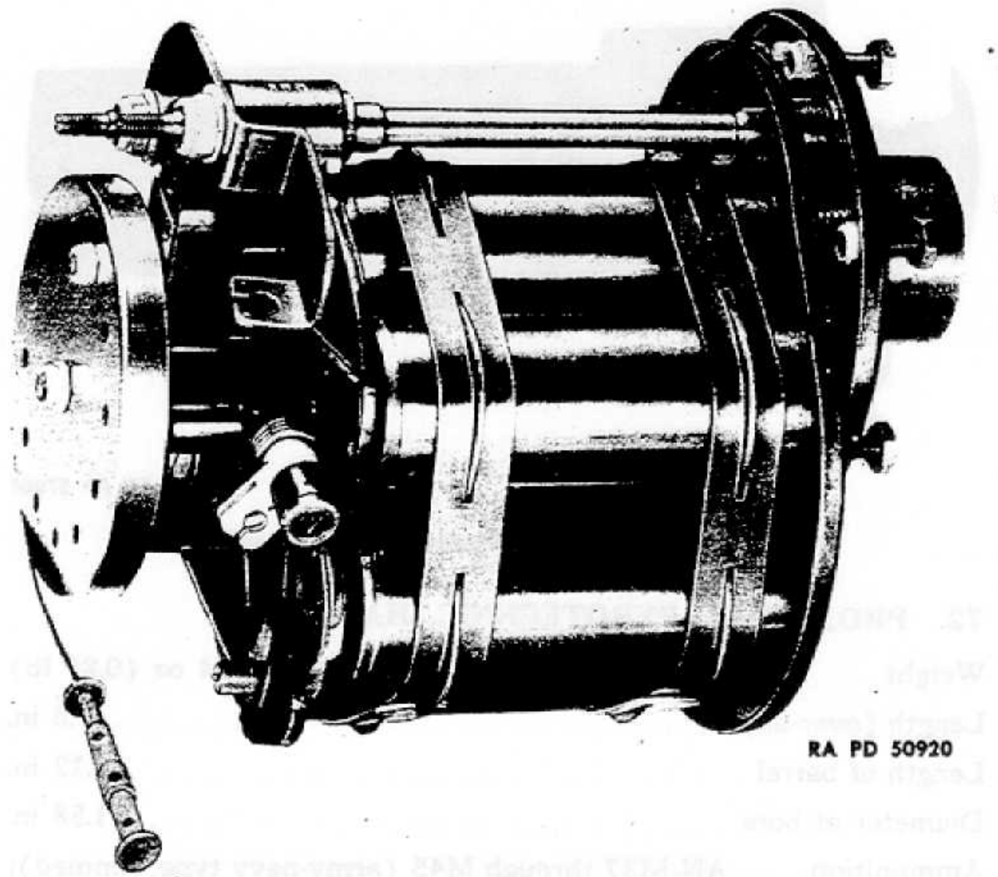


Figure 72—Discharger, Pyrotechnic, AN-M5

73. DISCHARGER, PYROTECHNIC, AN-M5.

Weight of discharger	8.6 lb
Weight of controller	0.9 oz
Length of discharger	9 in.
Length of controller	9.9 to 15 in.
Caliber	1.58 in.
Number of barrels	6
Length of barrels	4.5 in.
Type of action	double
Ammunition	AN-M37 through M45 (army-navy type)

References

SNL B-34
Drawing No. 42-39-1
Specification No. AXS-686
TM 9-290
TM 9-1290

Section V

EQUIPMENT

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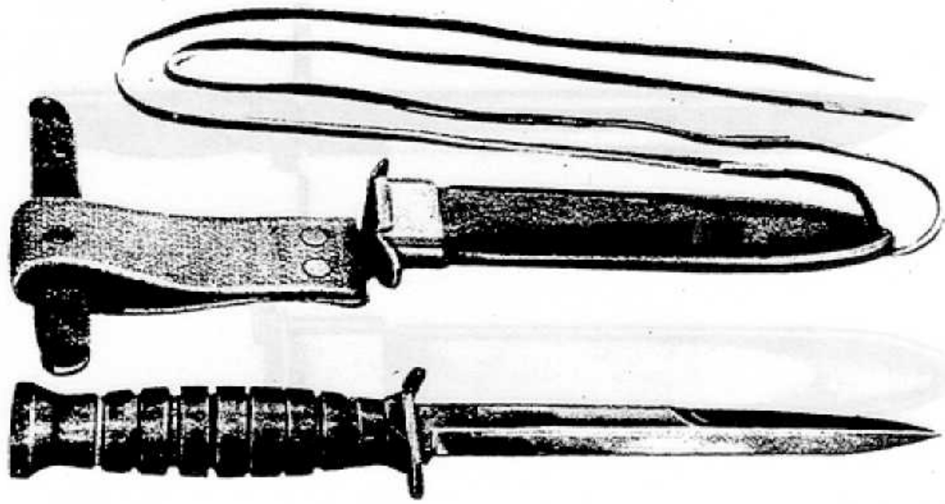
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RA PD 82834

Figure 73—Knife, Trench, M3, and Scabbard, Trench Knife, M8

74. KNIFE, TRENCH, M3.

Weight . . . . 9 oz (0.56 lb)
Length (over-all) . . . . 11.7 in.
Length of blade . . . . 6.7 in.

References

Drawing No. 20-2B-52
Specification No. AXS-865

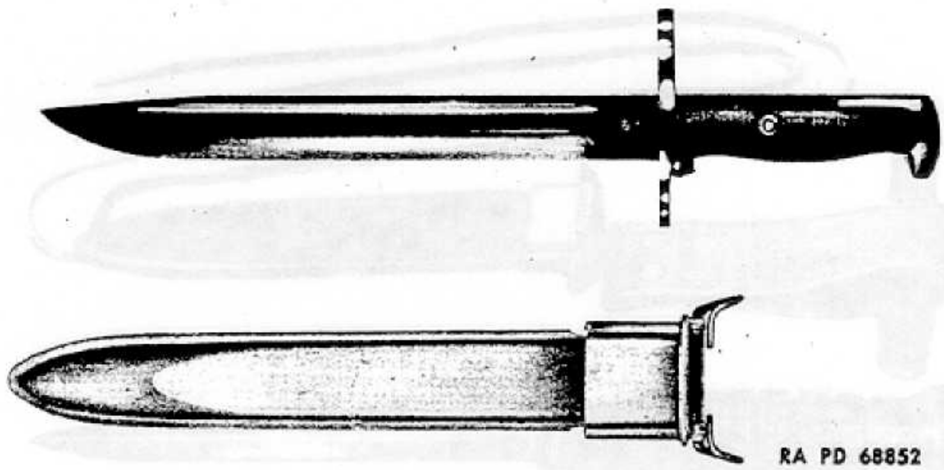
75. SCABBARD, TRENCH KNIFE, M8.

Weight . . . . .24 lb
Length . . . . 12.0 in.

NOTE: Made of plastic material. Worn on pistol belt or any leather or web belt with thongs for fastening on leg.

References

Drawing No. 20-2B-57
Specification No. . . . . . .



RA PD 68852

Figure 74—Bayonet M1 and Scabbard, Bayonet, M7

76. BAYONET M1.

Weight	13.5 oz (0.84 lb)
Length	14.4 in.
Length of blade	10.0 in.
Length of guard and grip	4.4 in.

References

SNL B-8
Drawing No. 20-2B-54
Specification No. 52-4-1

77. SCABBARD, BAYONET, M7.

Weight	5 oz (0.31 lb)
Length	11.2 in.

References

SNL B-8
Drawing No. 20-2B-56
Specification No. RIXS-212



RA PD 7629

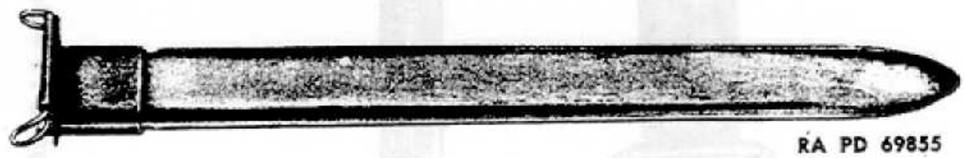
Figure 75—Bayonet M1905

78. BAYONET M1905.

Weight	1.01 lb
Length	20.6 in.
Length of blade	16.2 in.
Length of guard and grip	4.4 in.

References

SNL B-8
Drawing No. D35353
Specification No. 52-4-1A
FM 23-25



RA PD 69855

Figure 76—Scabbard, Bayonet, M3

79. SCABBARD, BAYONET, M3.

Weight	0.44 lb
Length	17.3 in.

References

SNL B-8
Drawing No. D39686
Specification No. RIXS-212

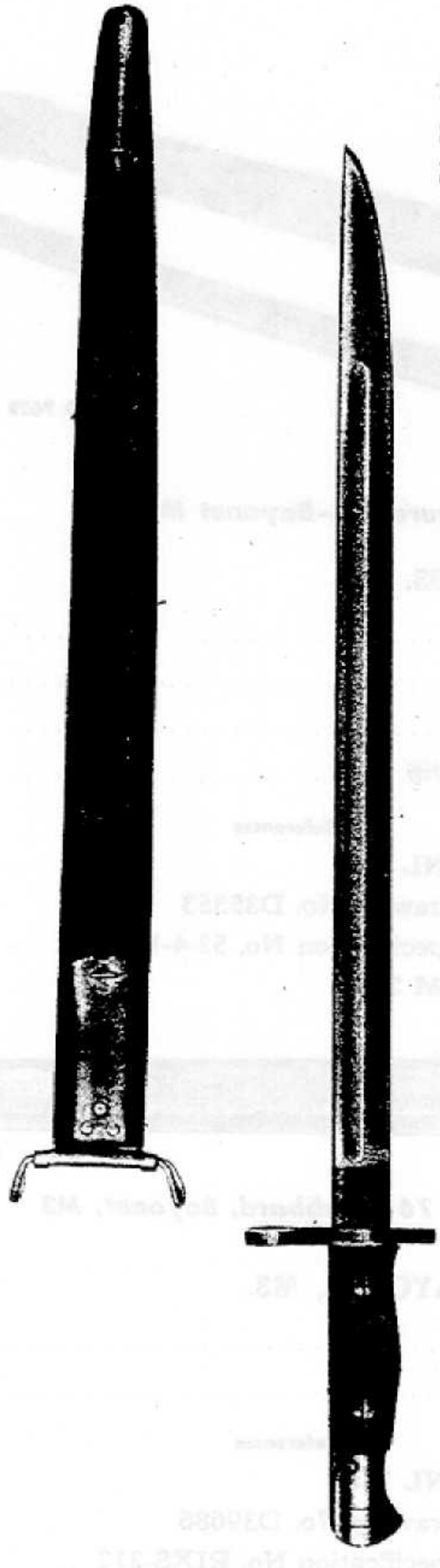


Figure 77—Bayonet M1917 and Scabbard, Bayonet, M1917

80. BAYONET M1917.

Weight	1.1 lb
Length	22 in.
Length of blade	17.1 in.
Length of guard and grip	5 in.

References

SNL B-8
Drawing No. 20-2B-32
Specification No. 52-4-1

81. SCABBARD, BAYONET, M1917.

Weight	9 oz.
Length	19 in.

References

SNL B-8
Drawing No. 20-2B-28
Specification No. RIXS-212

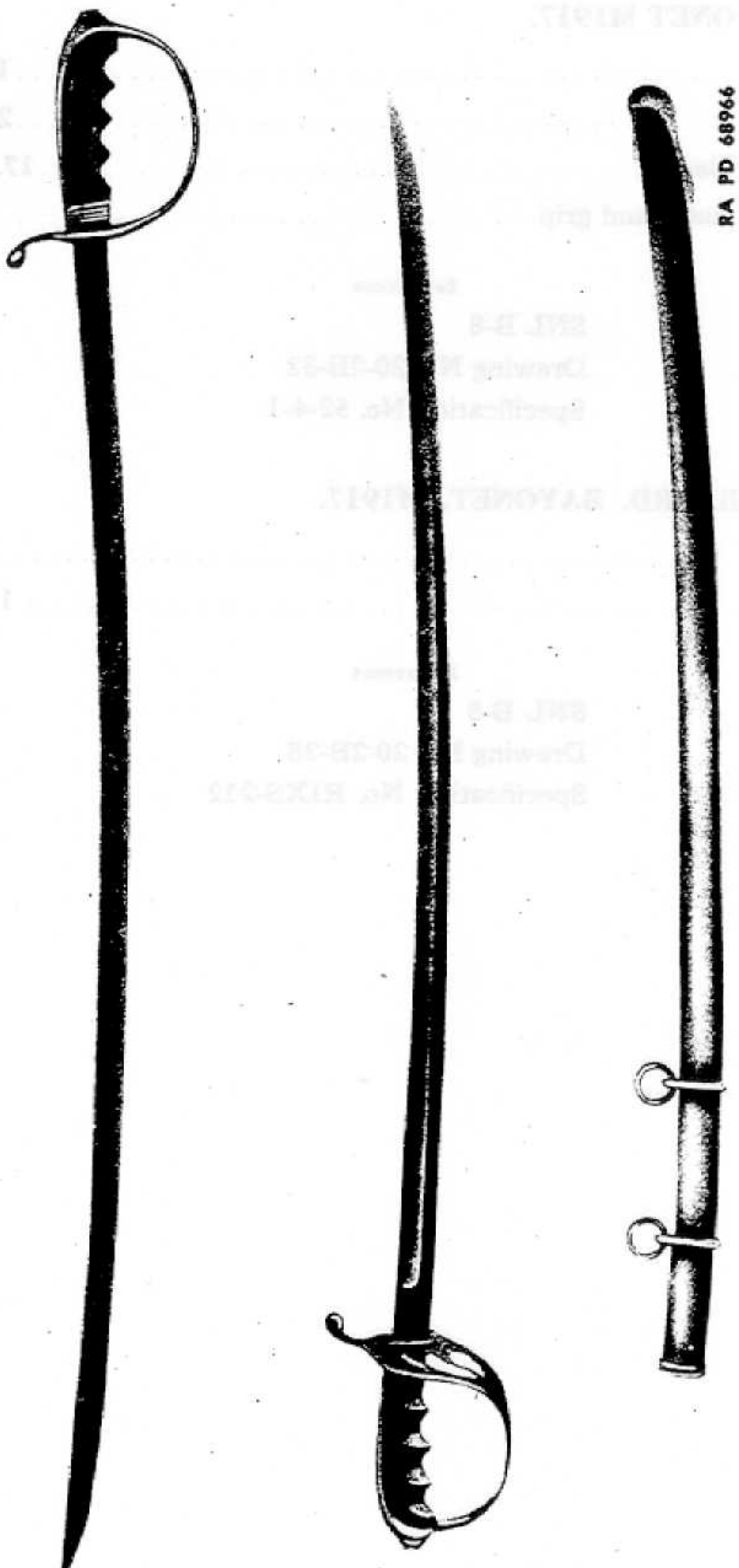


Figure 78—Saber, Officer's, M1907, and Scabbard, Saber, Officer's, M1907

82. SABER, OFFICER'S, M1907.

Weight of 30-in. blade	1.3 lb
Length (over-all)	35.5 in., 37.5 in., or 39.5 in.
Length of blade	30 in., 32 in., and 34 in. (respectively)
Grip	Hard rubber
Grip length	5.5 in.
Inscription	"U. S." etched on left side
Classification	Standard

NOTE: Issued by the Quartermaster Corps.

References

Drawing No. 20-2B-15
Specification No. 52-4-6

83. SCABBARD, SABER, OFFICER'S, M1907.

Weight of 30-in. sheath	0.75 lb
Length to accommodate	30 in., 32 in., or 34 in. saber

NOTE: Issued by the Quartermaster Corps.

References

Drawing No. 20-2B-16
Specification No. 52-4-22

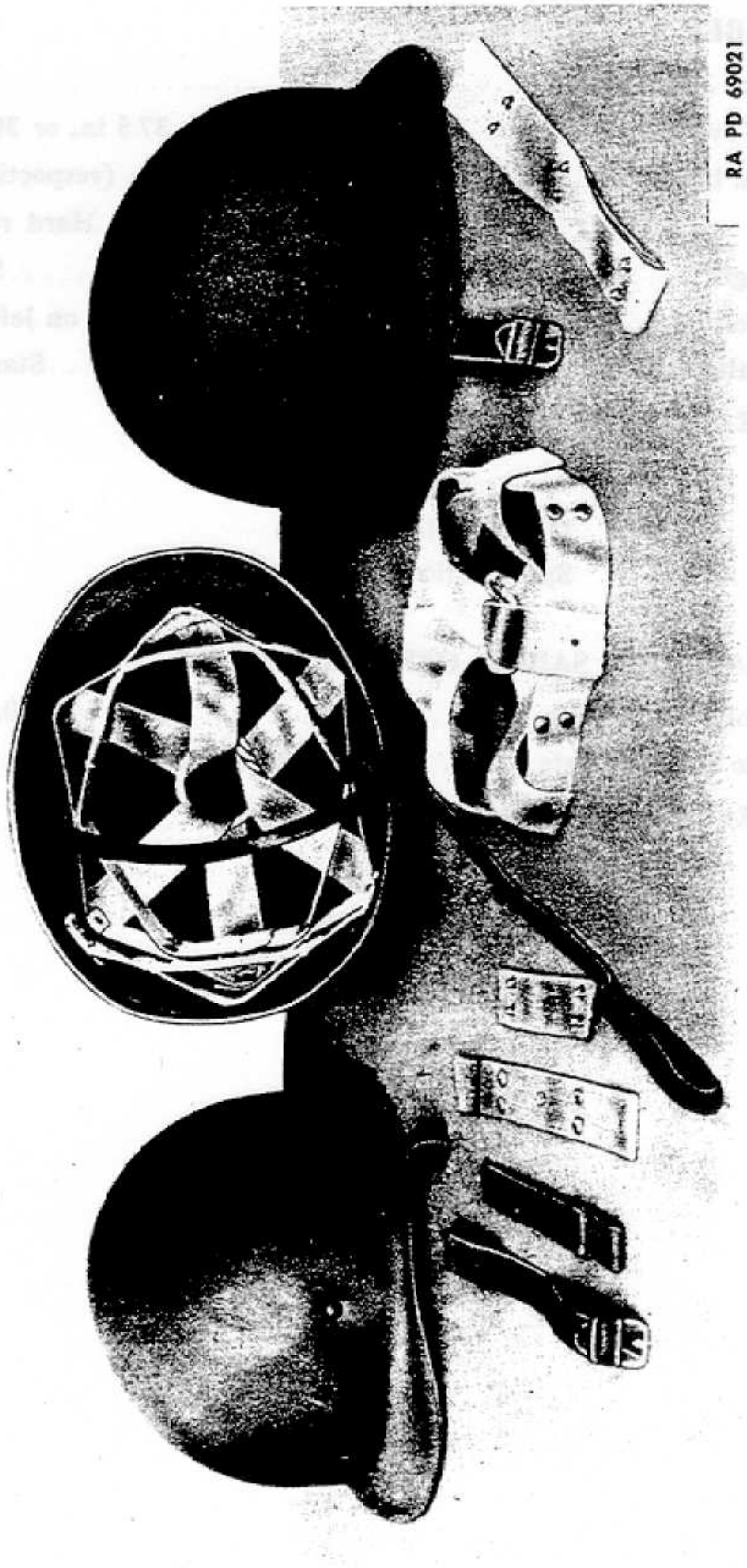


Figure 79—Helmet, Steel, M1

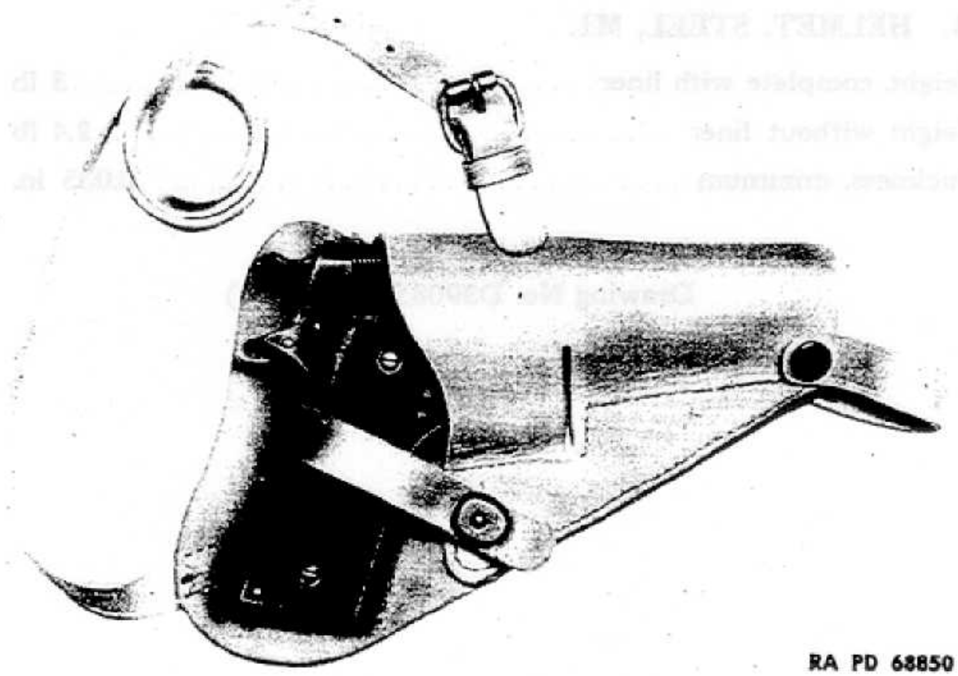
EQUIPMENT

84. HELMET, STEEL, M1.

Weight, complete with liner	3 lb
Weight without liner	2.4 lb
Thickness, minimum	0.035 in.

References

Drawing No. D39085 (assembly)



RA PD 68850

Figure 80—Holster, Pistol, Cal. .45, M3 (Shoulder Type)

85. HOLSTER, PISTOL, CAL. .45, M3 (SHOULDER TYPE).

Length .... 10 in.
Width .... 6 in.
Length of buckle strap (approx.) .... 37 in.
Width of buckle strap .... 0.8 in.

NOTE: Pistol is retained in holster by lifted dot snap fastener on strap. Holster is held from shoulder by buckle strap.

References

SNL B-6
Drawing No. 20-17-101
Specification No. 52-3-2

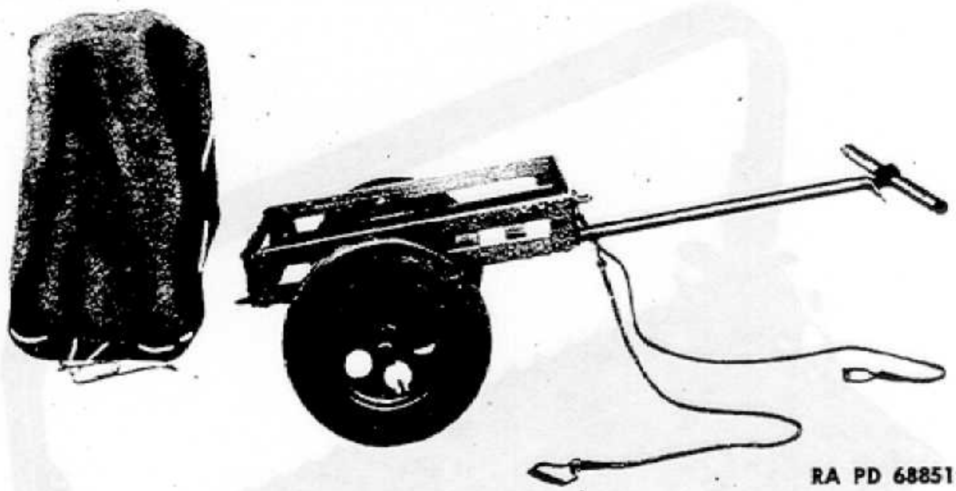


Figure 81—Cart, Hand, Utility, M3A4

86. CART, HAND, M3A4.

Length (over-all)	69.5 in.
Width (over-all)	39.1 in.
Height (over-all)	19.8 in.
Height (wheel diameter)	20 in.
Dimension of body	24 x 32 x 5 in.
C/C tread	32.5 in.
Road clearance	12 in.
Weight of cart	74 lb
Weight of cover	6 lb
Tires	4.00 x 12, 2-ply, high speed balloon
Tubes	4.00 x 12
Tire pressure	24 lb

NOTE: The basic item of this group is the utility Hand Cart M3A4. By the addition of suitable brackets and straps, it can be converted into any of the following: Hand Cart M4A1, for cal. .30 machine gun; Hand Cart M5A1, for cal. .50 machine gun; and Hand Cart M6A1, for 81-mm mortar.

References

SNL A-42

Drawing	M3A4	1-100-60
	M3A1	1-100-70
	M5A1	1-100-80
	M6A1	1-100-90

Specification No. 52-8-9A1



Figure 82—Machine, Link Loading, Cal. .30, M3

87. MACHINE, LINK-LOADING, CAL. .30, M3.

Weight	10.7 lb
Cartridge capacity	20 rounds
Length (over-all)	13.4 in.
Width	8.5 in.
Height (handle folded down)	2.8 in.
Average load on lever necessary to load links	21 lb
Rate of loading, one man	Approx. 1,040 rounds per hr
Rate of loading, two men	Approx. 2,000 rounds per hr

References

SNL A-28
Drawing No. D35341
Specification No. 52-8-27

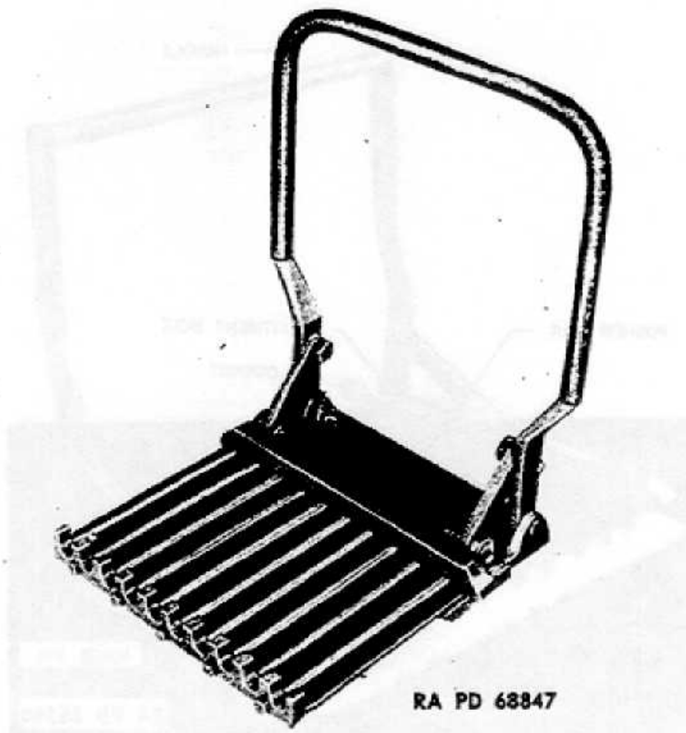


Figure 83—Machine, Link Loading, Cal. .50, M2

88. MACHINE, LINK-LOADING, CAL. .50, M2.

Weight	18.8 lb
Cartridge capacity	10 rounds
Length (over-all)	12.0 in.
Width	14.9 in.
Height (handle folded down)	4.2 in.
Average load on lever necessary to load links	43 lb
Rate of loading, one man	Approx. 1,040 rounds per hr
Rate of loading, two men	Approx. 2,000 rounds per hr

References

SNL A-39
Drawing No. D8794
Specification No. 52-8-27

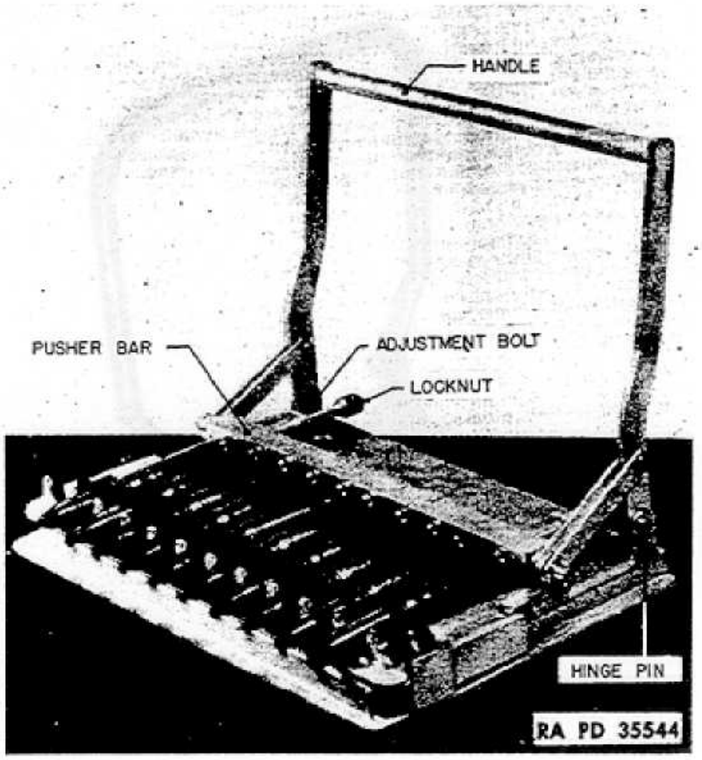


Figure 84—Machine, Linking, 20-MM Ammunition, M4

89. MACHINE, LINKING, 20-MM AMMUNITION, M4.

Weight	20 lb
Cartridge capacity	10 rounds
Length (over-all)	Approx. 13 in.
Width	16 in.
Height (over-all)	13.37 in.
Method of operation	Manual

References

SNL A-47
Drawing No. D69370
TM 9-227

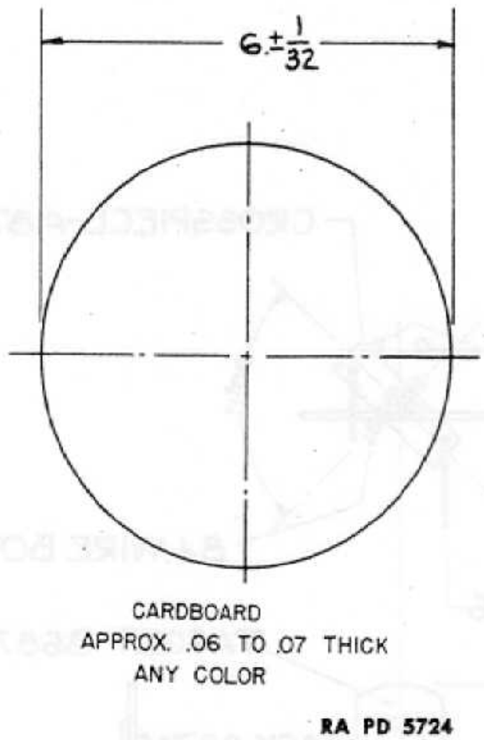


Figure 85—Disk, Bayonet, Practice, M1

90. DISK, BAYONET, PRACTICE, M1.

Diameter .... 6 in.
Material .... Cardboard (approx. 0.06 to 0.07 in. thick, any color)

References

Drawing No. A175649
Specification No. 52-17-6

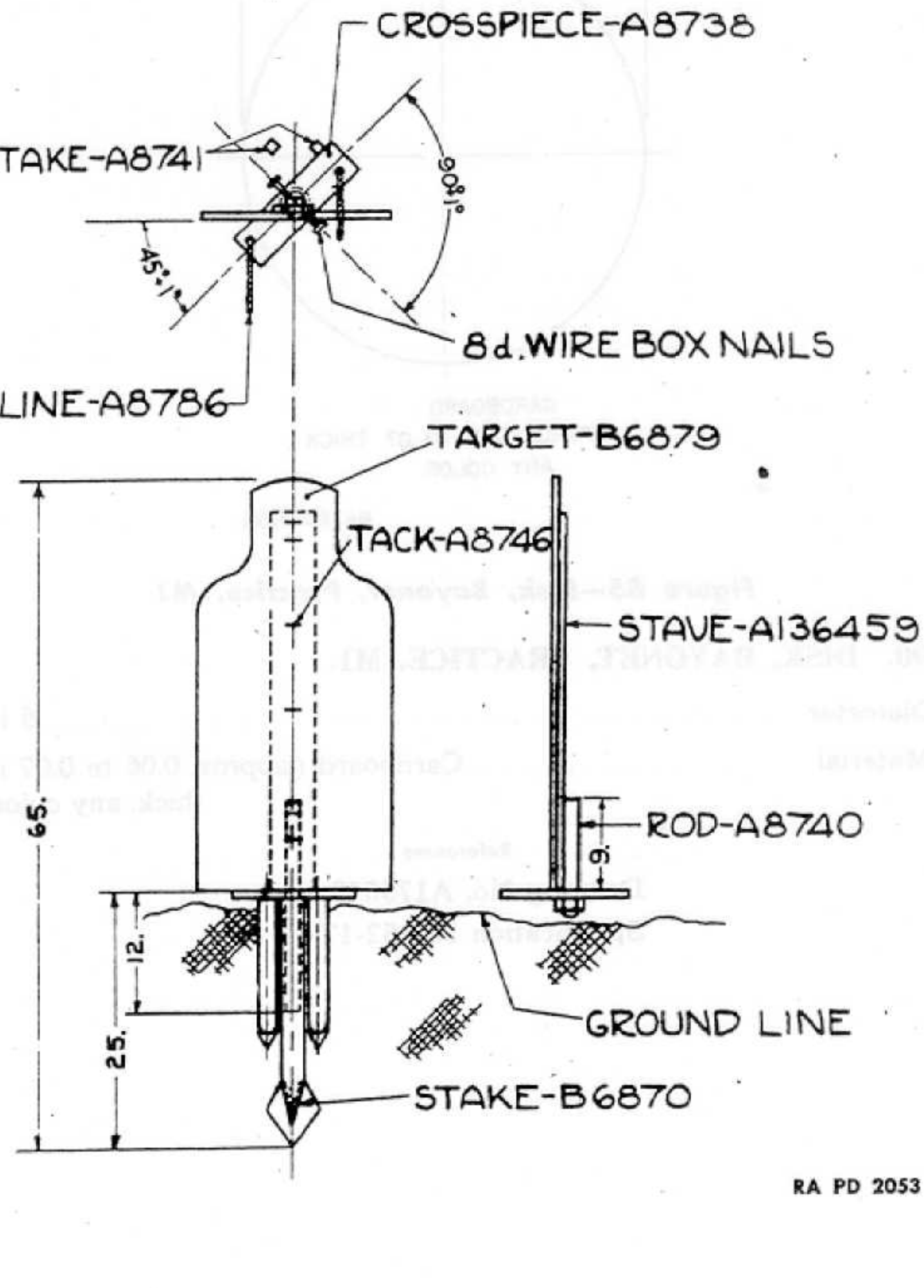


Figure 86—Target, Bobbing, M1913

91. TARGET, BOBBING, M1913.

Height	5 ft 5 in.
Width	19.5 in.
Weight	17.2 lb
Consists of	1 target, "E," kneeling 1 pivot stake 2 limit stakes 1 target rod 1 crosspiece 1 operating line 1 stave

References

SNL L-1
Drawing No. C59740
Specification No. 52-17-1A

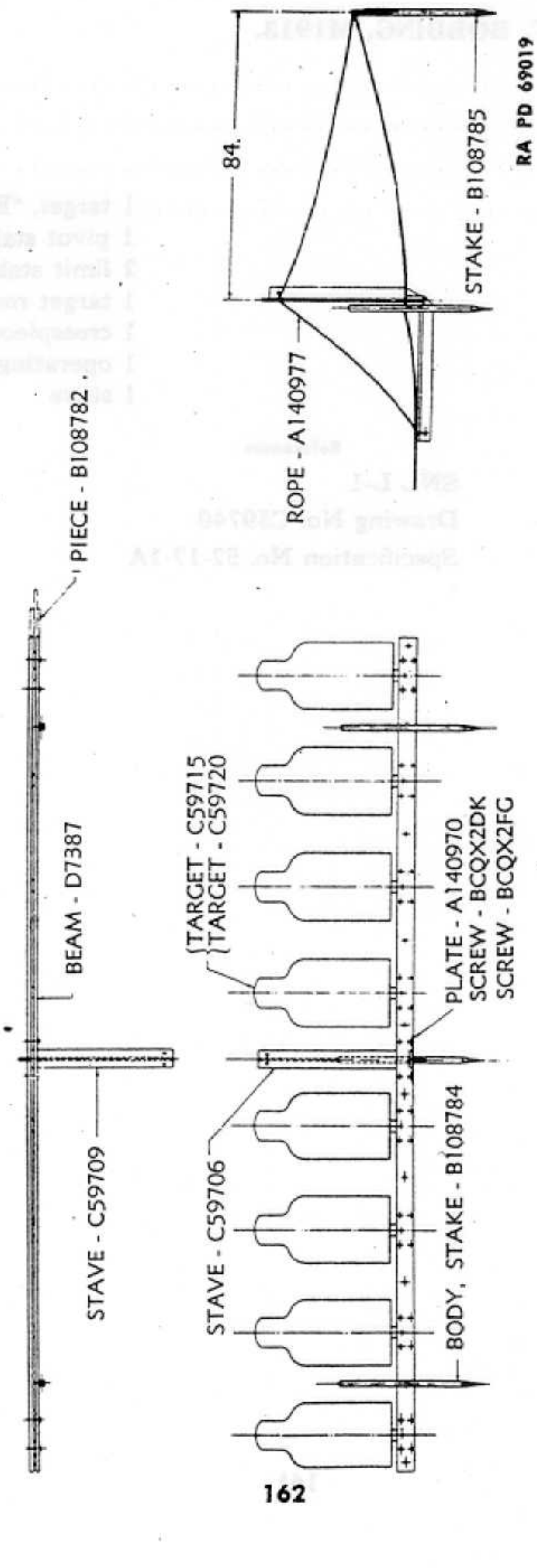


Figure 87—Target, "I," M1913

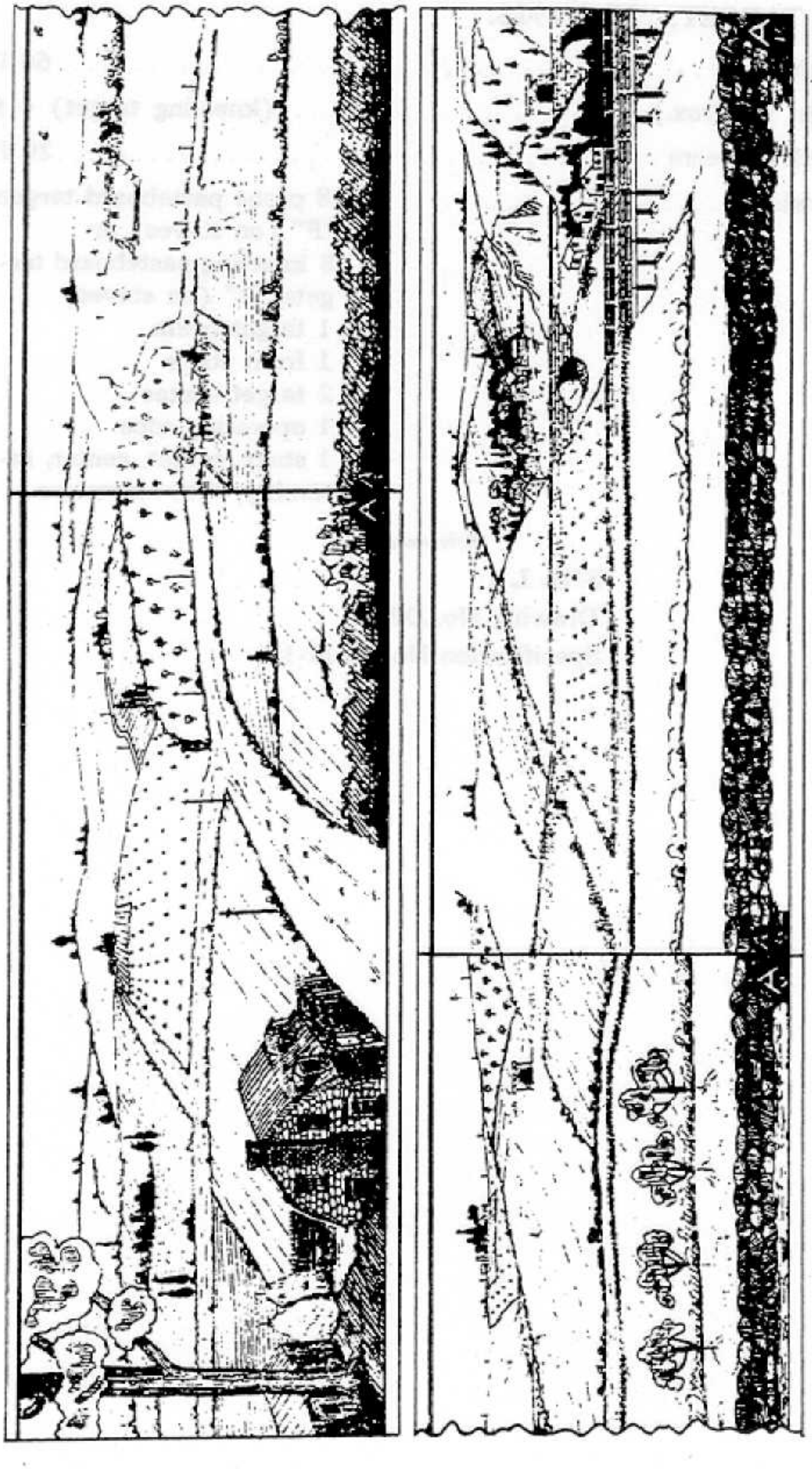
EQUIPMENT

92. TARGET, "I," M1913.

Weight	60 lb
Height (approx.)	(kneeling target) 4 ft
Length of beam	20 ft
Consists of	8 prone pasteboard targets, "F" (on staves) or 8 kneeling pasteboard targets, "E" (on staves) 1 target beam 1 front stave 2 target stakes 1 operating rope 1 stake, target, center, assembly, with screw-eye

References

SNL L-1
Drawing No. D7393
Specification No. 52-17-1A



RA PD 5723

Figure 88—Target, Landscape, Series "A"

93. TARGET, LANDSCAPE, SERIES "A."

Consists of . . . . Set of drawings, one each, A-1 to A-10
Material . . . . Machine-finished poster paper

References

SNL L-1
Drawing No. 39-1-107
Specification No. 52-17-6

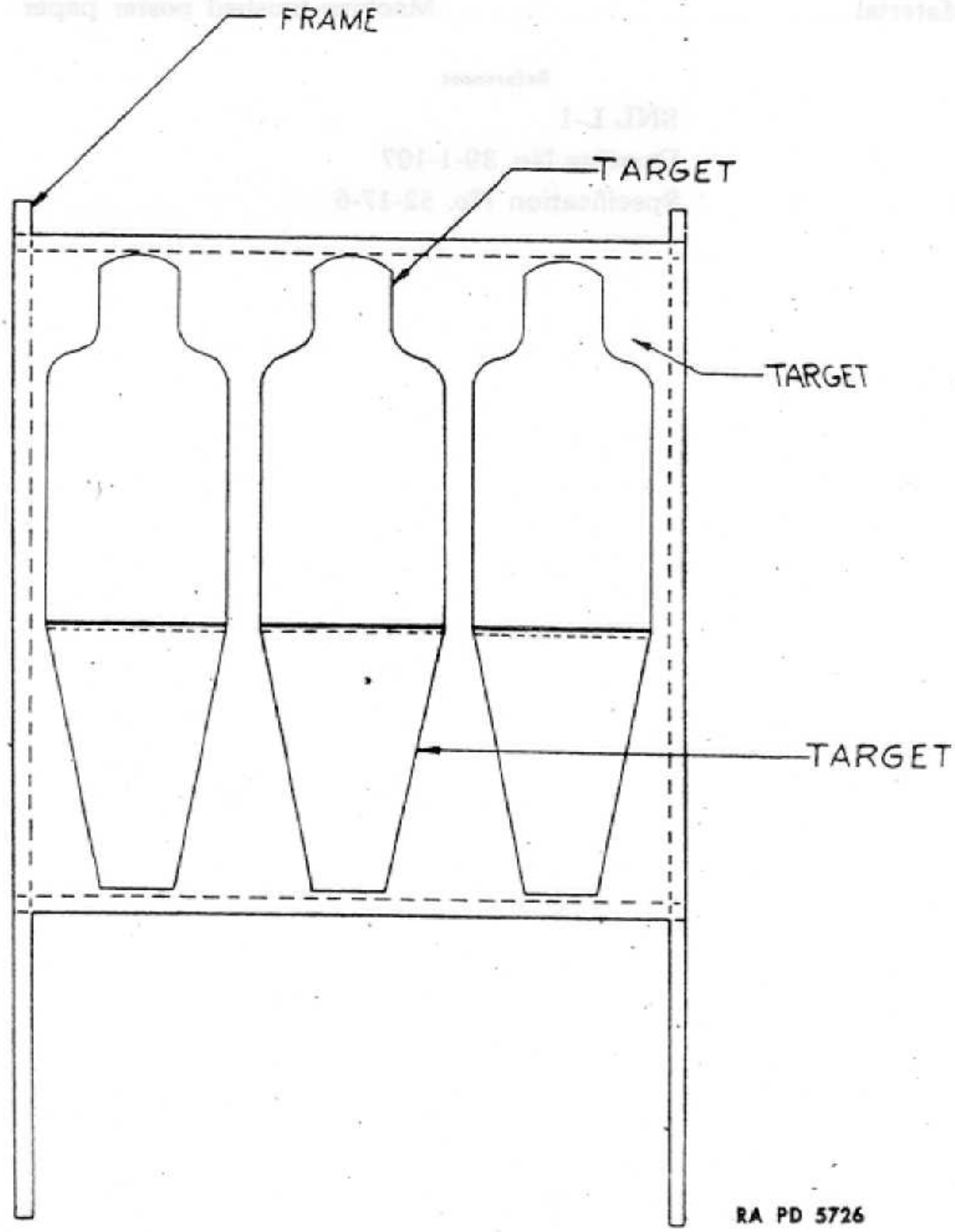


Figure 89—Target, "M," Paper Silhouette, Tank, Machine Gun

94. TARGET, "M," PAPER SILHOUETTE, TANK, MACHINE GUN.

Frame	6 by 6 ft
Frame:	
Height	9 feet of side bars
Width	6 ft
Silhouette:	
Height	5 ft 7.2 in.
Width	1 ft 7.5 in.
Material	Target paper, grade "A"

References

SNL L-1
Drawing No. C59843
Specification No. 52-17-1

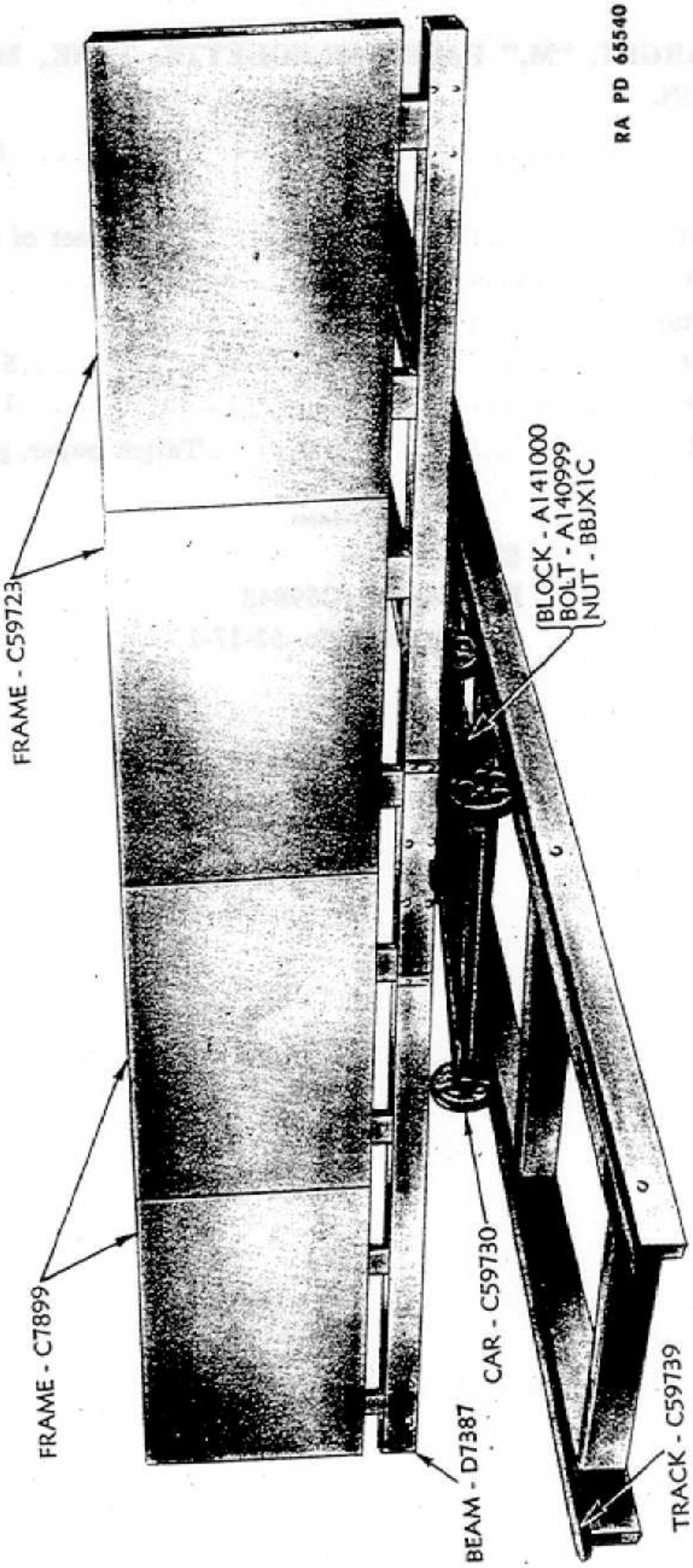


Figure 90—Target, Rolling, Machine Gun

95. TARGET, ROLLING, MACHINE GUN.

Weight	756 lb
Height (approx.)	5 ft
Length of beam	20 ft
Width of track	4 ft 0.5 in.
Length of one section of track	75 ft
Consists of	4 target frames 1 target beam 1 car 1 track

References

SNL L-1
Drawing No. C59725
Specification No. 52-17-1A

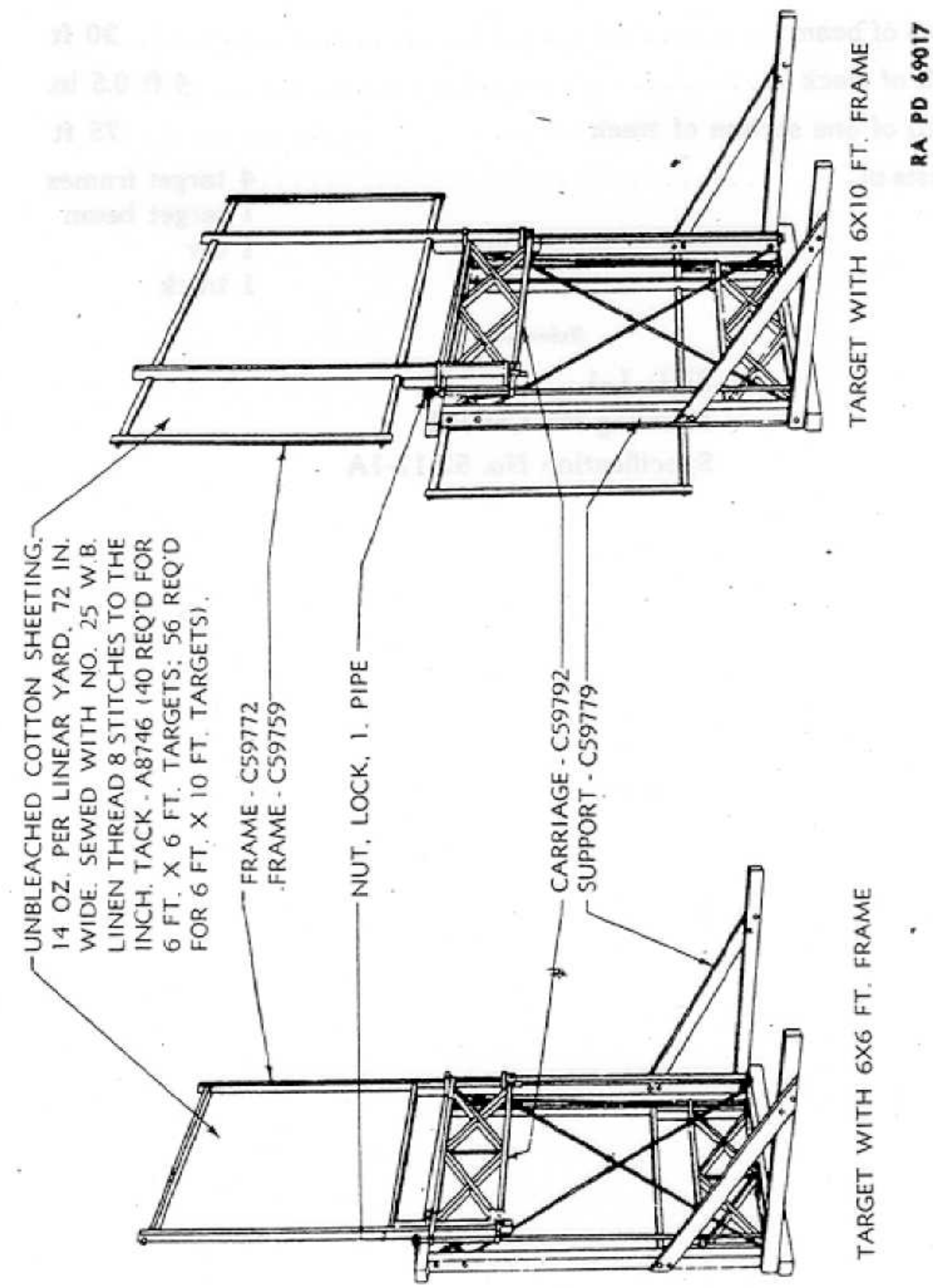


Figure 91—Target, Sliding, Combination (6 ft x 6 ft and 6 ft x 10 ft)

96. TARGET, SLIDING, COMBINATION.

Weight . . . . (6 by 10 ft) 486 lb
(6 by 6 ft) 500 lb

Height (approx.) . . . . 16 ft

References

SNL L-1
Drawing No. D7425
Specification No. 52-17-1A

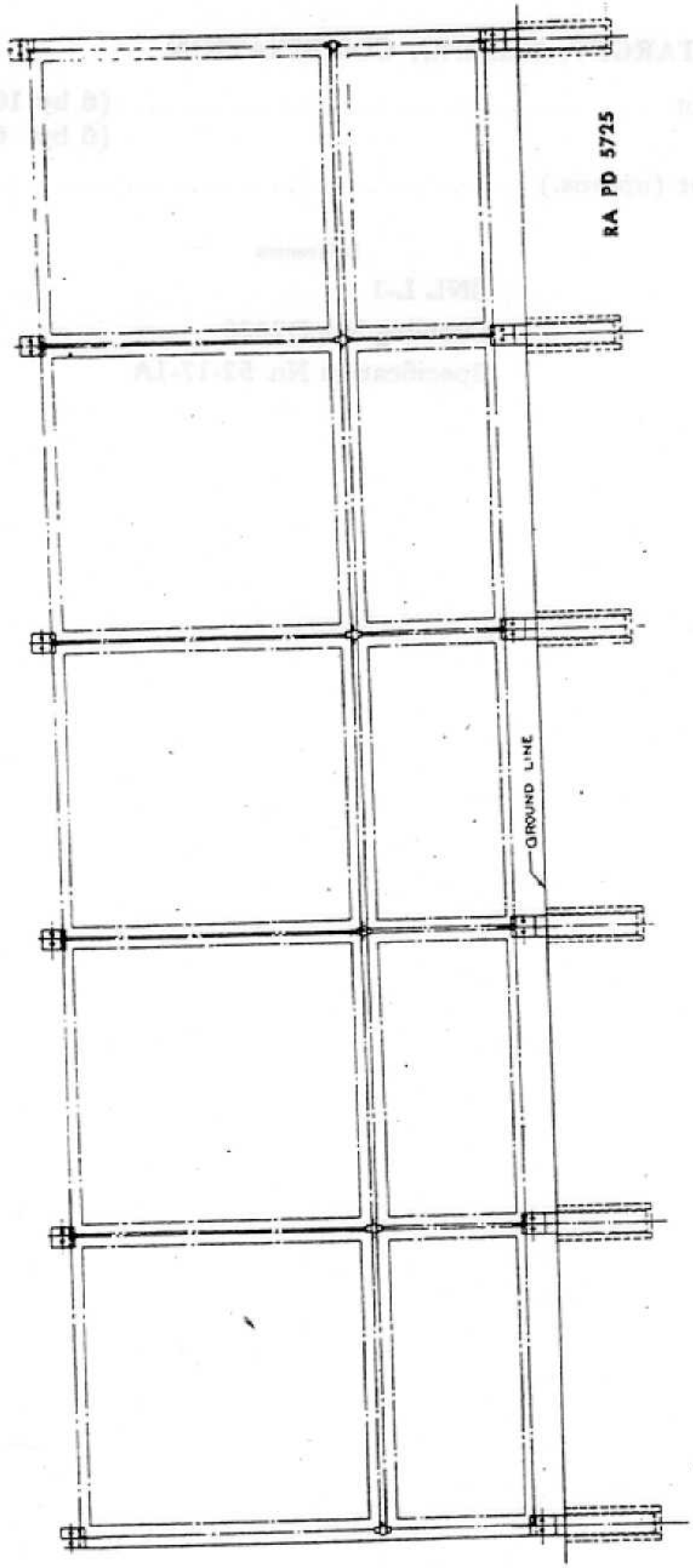


Figure 92—Frame, Target, Landscape

97. FRAME, TARGET, LANDSCAPE.

Height .... 111.86 in.
Width .... 301.2 in.

References

SNL L-1
Drawing No. D7424
Specification No. 52-17-1

98. TARGET, BALLOON, RUBBER, M1.

Weight:	
6R and 6F	1.05 oz
9R and 9F	2.15 oz
Size (deflated):	
6R—sphere diameter	6 in.
6F—flat	8.8 by 11 in.
9R—sphere diameter	9 in.
9F—flat	12.5 by 15 in.
Size (inflated):	
6R and 6F—sphere diameter	30 in.
9R and 9F—sphere diameter	42 in.

References

SNL L-1
Specification No. 20-69

99. TARGET PASTERS, GUMMED, WATER-PROOFED.

Length (approx.)	3.5 in.
Diameter	1 in.

References

SNL L-1
Drawing No. C93158
Specification No. 52-17-1

Section VI

AMMUNITION

Paragraph

CAL. .22 CARTRIDGES:

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CARTRIDGE, AP-T, M75, 20-mm guns, M1, AN-M2, and Br. H.S./A/ 123

CARTRIDGE, ball, 20-mm guns, M1, AN-M2, and Br. H.S./A/ 124

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

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AMMUNITION

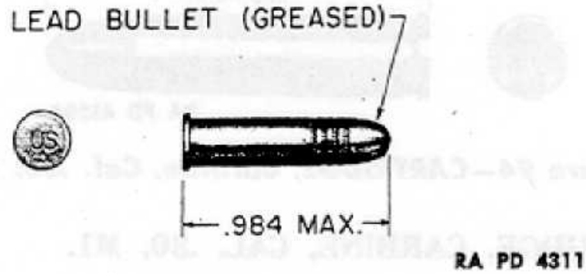


Figure 93—CARTRIDGE, Ball, Cal. .22, Long Rifle

100. CARTRIDGE, BALL, CAL. .22, LONG RIFLE.

a. Weight:	Grains
Complete round	53.5
Bullet	40.0
Case	12.0
Propellant	(Approx.) 1.7

b. Length:	Inches
Complete round	0.98
Bullet	0.46
Case:	
Over-all	0.61
Rim thickness	0.043

c. Diameter:	Inches
Bullet	0.22
Case:	
Wall thickness at mouth	*
Rim	0.275

d. Miscellaneous:	
Powder space	*
Ballistic coefficient	0.129 lb per sq in.
Muzzle velocity (at 25 ft)	1,100 ft per sec
Normal pressure	20,000 to 22,000 lb per sq in.
Maximum range	1,500 yd

References

SNL T-1
Specification No. SXS-1
TM 9-1900
TM 9-1990

* Data not available at time of publication.

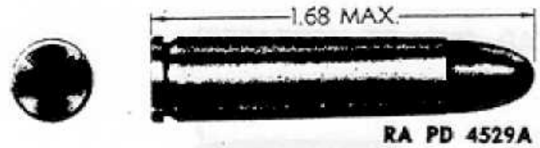


Figure 94—CARTRIDGE, Carbine, Cal. .30, M1

101. CARTRIDGE, CARBINE, CAL. .30, M1.

a. Weight:	Grains
Complete round	193
Bullet:	
Complete	(Average) 110
Jacket	28
Slug	(Average) 82
Case	66
Primer	3.1
Propellant	(Approx.) 14

b. Length:	Inches
Complete round	(Average) 1.67
Bullet:	
Complete	(Average) 0.68
Slug	0.66
Case:	
Over-all	(Average) 1.28
Headspace	1.29
Head thickness	0.160

c. Diameter:	Inches
Bullet:	
Complete	0.308
Slug	0.268
Jacket wall thickness	0.020
Case:	
Wall thickness at head	0.027
Wall thickness at mouth	0.012
Head	(Average) 0.356

d. Miscellaneous:

Powder space	0.056 cu in.

AMMUNITION

Ballistic coefficient	0.179 lb per sq in.
Boat-tailing of base	None
Length of ogive	0.375 in.
Base of bullet to origin of rifling	*
Muzzle velocity	1,975 ft per sec
Normal pressure	40,000 lb per sq in.
Maximum range	2,700 yd

References

SNL T-1
Drawing No. B200954 (complete round)
Drawing No. B200955 (bullet)
Specification No. AXS-646
TM 9-1900
TM 9-1990

* Data not available at time of publication.

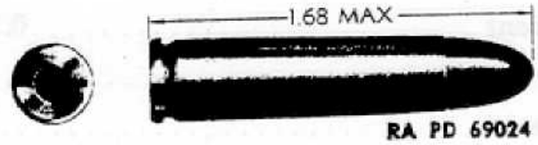


Figure 95—CARTRIDGE, Carbine, Dummy, Cal. .30, M1

102. CARTRIDGE, CARBINE, DUMMY, CAL. .30, M1.

a. Weight:

	Grains
Complete round	177

b. Length:

	Inches
Complete round	(Average) 1.67
Case:	
Over-all	(Average) 1.28
Headspace	1.29

c. Diameter:

	Inches
Bullet	0.308
Case: head	(Average) 0.356

References

SNL T-1
Drawing No. B177513 (complete round)
TM 9-1900
TM 9-1990

AMMUNITION

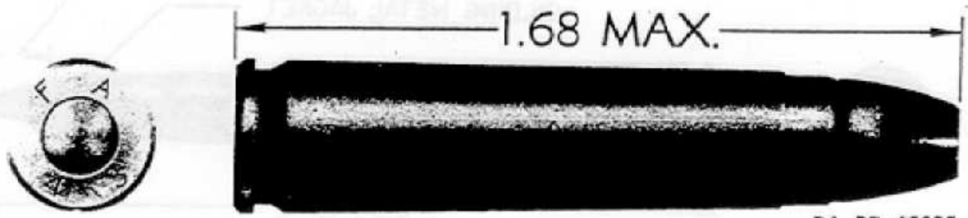


Figure 96—CARTRIDGE, Grenade, Carbine, Cal. .30, M6

103. CARTRIDGE, GRENADE, CARBINE, CAL. .30, M6.

a. Weight:

	Grains
Complete round	(Average) 102
Case	77
Primer	3.06
Propellant	21

b. Length:

	Inches
Complete round	(Average) 1.67
Case:	
Over-all	(Average) 1.67
Headspace	1.29
Head thickness	0.160

c. Diameter:

	Inches
Case:	
Wall thickness at head	0.027
Wall thickness at shoulder	0.012
Head	(Average) 0.356

d. Miscellaneous:

Mean grenade velocity at 5.5 feet (with GRENADE, rifle, practice, M11A2) .... 145 ± 5 ft per sec

References

SNL S-4
Drawing No. B181079 (complete round)
TM 9-1900
TM 9-1990

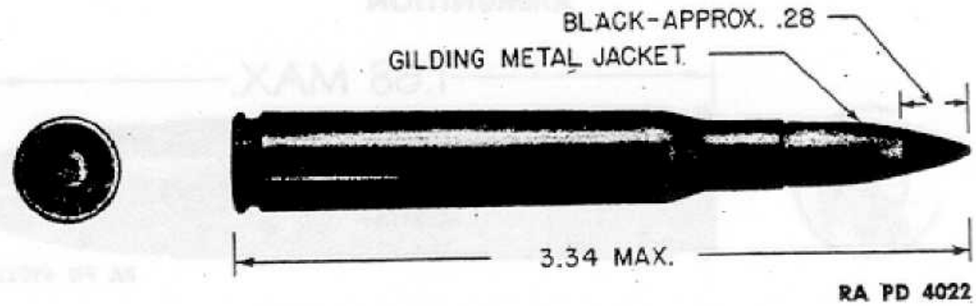


Figure 97—CARTRIDGE, Armor-piercing, Cal. .30, M2

104. CARTRIDGE, ARMOR-PIERCING, CAL. .30, M2.

a. Weight:

		Grains
Complete round		414
M2 alternative		412
Bullet:		
Complete		168.5
M2 alternative		164.0
Jacket		64
Core		82
M2 alternative		80
Fillers		19.6
Case	(Average)	190
Primer		5.5
Propellant	(Approx.)	53

b. Length:

		Inches
Complete round	(Average)	3.32
Bullet:		
Complete	(Average)	1.37
Core	(Average)	1.09
Case:		
Over-all	(Average)	2.49
Headspace	(Average)	1.946
Head thickness	(Average)	0.186

c. Diameter:

Bullet:		
Complete	(Average)	0.308
Jacket wall thickness		0.030
Core		0.245

AMMUNITION

Case:	Inches
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

d. Miscellaneous:

Powder space	0.23 cu in.
Ballistic coefficient	0.283 lb per sq in.
Boat-tailing of base	5-deg taper
Length of ogive: average	0.735
Base of bullet to origin of rifling	0.80 in.
Muzzle velocity	2,770 ft per sec
Normal pressure	50,000 lb per sq in.
Maximum range	5,100 yd

References

SNL T-1
Drawing No. B138194 (complete round)
Drawing No. B138195 (bullet)
Drawing No. B177839 (bullet, alternative)
Specification No. 50-1-21A
TM 9-1900
TM 9-1990

SMALL ARMS, LIGHT FIELD MORTARS, AND 20-MM AIRCRAFT GUNS

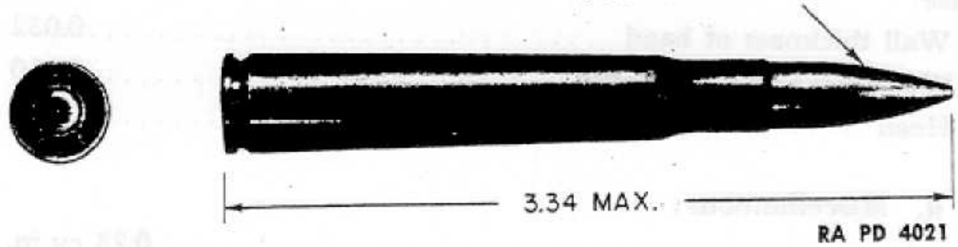


Figure 98—CARTRIDGE, Ball, Cal. .30, M2

105. CARTRIDGE, BALL, CAL. .30, M2.

a. Weight:

	Grains
Complete round	396
M2 alternative	397
Bullet:	
Complete	151
M2 alternative	152
Jacket	52
M2 alternative	49
Slug	99
M2 alternative	103
Case	(Average) 19
Primer	5.5
Propellant	(Approx.) 50

b. Length:

	Inches
Complete round	(Average) 3.32
Bullet:	
Complete	(Average) 1.10
Slug	0.98
Case:	
Over-all	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:

	Inches
Bullet	(Average) 0.308
Slug	0.245
Jacket wall thickness	0.030

Case:	
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

d. Miscellaneous:

Powder space	0.250 cu in.
Ballistic coefficient	0.21 lb per sq in.
Boat-tailing of base	None
Length of ogive	(Average) 0.730 in.
Base of bullet to origin of rifling	0.55 in.
Muzzle velocity	2,800 ft per sec
Normal pressure	50,000 lb per sq in.
Maximum range	4,700 yd

References

SNL T-1
Drawing No. B137544 (complete round)
Drawing No. B171958 (bullet and bullet, alternative)
Specification No. 50-1-30A
TM 9-1900
TM 9-1990

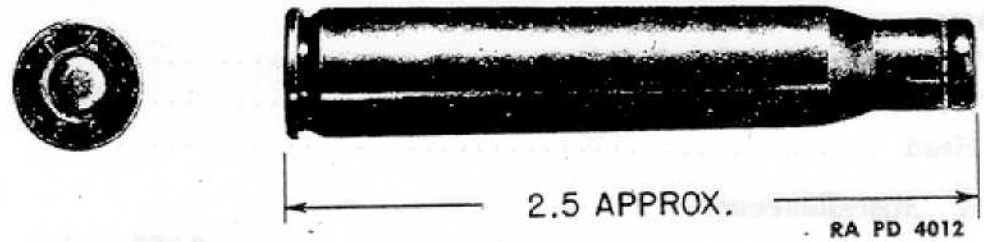


Figure 99—CARTRIDGE, Blank, Cal. .30, M1909

106. CARTRIDGE, BLANK, CAL. .30, M1909.

a. Weight:	Grains
Complete round	207
Case	(Average) 190
Wad	0.25
Primer	5.5
Powder charge	12

b. Length:	Inches
Complete round (before canneluring)	2.49
Case:	
Over-all	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:	
Case:	
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

References

SNL T-1
Drawing No. B6152 (complete round)
Specification No. 50-1-9A
TM 9-1900
TM 9-1990

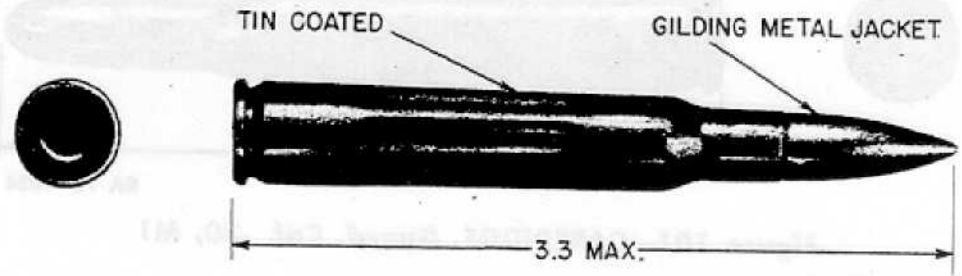


Figure 100—CARTRIDGE, Dummy, Cal. .30, M1906 (Corrugated)

107. CARTRIDGE, DUMMY, CAL. .30, M1906 (CORRUGATED).

a. Weight:

	Grains
Complete round (with M2 bullet)	340

b. Length:

	Inches
Complete round	(Average) 3.28
Case:	
Over-all	2.49
Headspace	1.946

c. Diameter:

	Inches
Bullet	(Average) 0.308
Case: head	0.47

References

SNL T-1
Drawing No. B6252 (complete round)
Specification No. 50-1-11
TM 9-1900
TM 9-1990

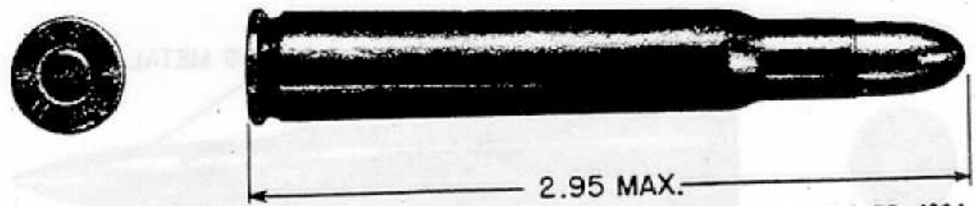


Figure 101—CARTRIDGE, Guard, Cal. .30, M1

108. CARTRIDGE, GUARD, CAL. .30, M1.

a. Weight:

	Grains
Complete round	346
Bullet	(Average) 140
Case	(Average) 190
Primer	5.5
Propellant	(Approx.) 10.5

b. Length:

	Inches
Complete round	(Average) 2.94
Bullet	0.82
Case:	
Over-all	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:

Bullet	0.309
Case:	
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

d. Miscellaneous:

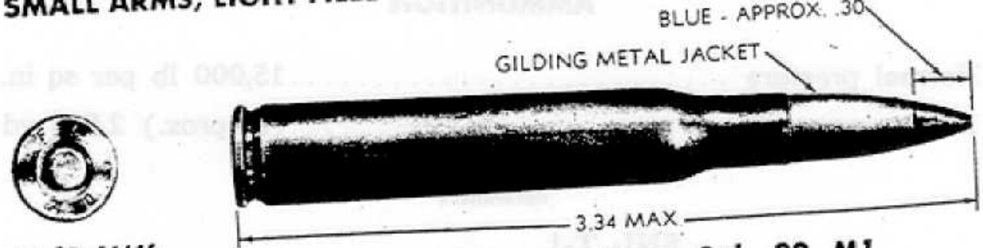
Powder space	0.244 cu in.
Ballistic coefficient	0.38 lb per sq in.
Boat-tailing of base	None
Length of ogive	0.3 in.
Base of bullet to origin of rifling	0.70 in.
Muzzle velocity	1,200 ft per sec

AMMUNITION

Normal pressure ....15,000 lb per sq in.
Maximum range ....(Approx.) 2,500 yd

References

SNL T-1
Drawing No. B134948 (complete round)
Drawing No. A41802 (bullet)
Specification No. 50-1-25
TM 9-1900
TM 9-1990



RA PD 64446

Figure 102—CARTRIDGE, Incendiary, Cal. .30, M1

109. CARTRIDGE, INCENDIARY, CAL. .30, M1.

a. Weight:	Grains
Complete round	386
M1 alternative	388
Bullet:	
Complete	140
M1 alternative	138.5
Case	(Average) 190
Primer	5.5
Propellant	(Approx.) 54
b. Length:	Inches
Complete round	(Average) 3.32
Bullet:	
Complete	(Average) 1.41
M1 alternative	(Average) 1.38
Case:	
Over-all	2.49
Headspace	(Average) 1.496
Head thickness	(Average) 0.186
c. Diameter:	
Bullet	(Average) 0.306
Case:	
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47
d. Miscellaneous:	
Ballistic coefficient	0.181 lb per sq in.
Boat-tailing of base	None
Length of ogive	(Average) 0.76 in.
Base of bullet to origin of rifling	0.82 in.
Velocity, at 78 feet	3,020 ft per sec
Normal pressure	52,000 lb per sq in.
Maximum range	5,500 yd

References

SNL T-1
Drawing No. B174791 (complete round)
Drawing No. B174792 (bullet) — TM 9-1900
Drawing No. B177944 (bullet, alternative) — TM 9-1990
Specification No. FXS-447

AMMUNITION

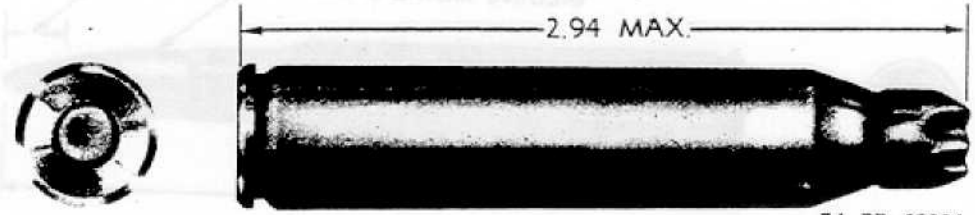


Figure 103—CARTRIDGE, Rifle Grenade, Cal. .30, M3

110. CARTRIDGE, RIFLE GRENADE, CAL. .30, M3.

a. Weight:

	Grains
Complete round	247
Case	(Average) 190
Primer	5.5
Propellant	51

b. Length:

	Inches
Complete round	2.49
Case:	
Over-all (before canneluring)	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:

	Inches
Case:	
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

d. Miscellaneous:

Mean grenade velocity at 5.5 feet............165 ± 5 ft per sec

References

SNL S-4
Drawing No. B173949 (complete round)
TM 9-1900
TM 9-1990

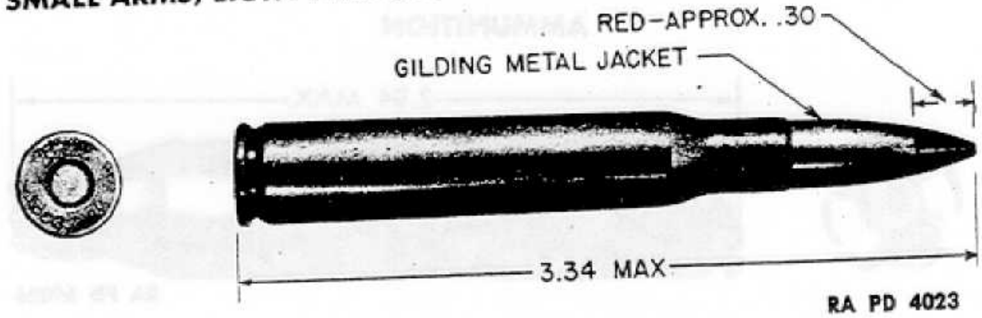


Figure 104—CARTRIDGE, Tracer, Cal. .30, M1

111. CARTRIDGE, TRACER, CAL. .30, M1.

a. Weight:

	Grains
Complete round	396
M1 alternative	387
Bullet:	
Complete	152
M1 alternative	143
Jacket	83
M1 alternative	74
Point (slug)	52
Tracer compound	17
Case	(Average) 190
Primer	5.5
Propellant	(Approx.) 50

b. Length:

	Inches
Complete round	(Average) 3.32
Bullet:	
Complete	(Average) 1.42
Point (slug)	0.725
Tracer cavity	(Average) 0.62
Case:	
Over-all	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:

	Inches
Bullet:	(Average) 0.308
Jacket wall thickness	0.035
Point (slug)	0.230

AMMUNITION

Case:	Inches
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

d. Miscellaneous:

Powder space	0.223 cu in.
Ballistic coefficient	0.355 lb per sq in.
Boat-tailing of base	None
Length of ogive	(Average) 0.734 in.
Base of bullet to origin of rifling	0.85 in.
Muzzle velocity	2,740 ft per sec
M1 alternative	2,705 ft per sec
Normal pressure	50,000 lb per sq in.
Maximum range	5,500 yd
Length of trace	750 yd

References

SNL T-1
Drawing No. B6764 (complete round)
Drawing No. B16092 (bullet)
Specification No. 50-1-6A
TM 9-1900
TM 9-1990

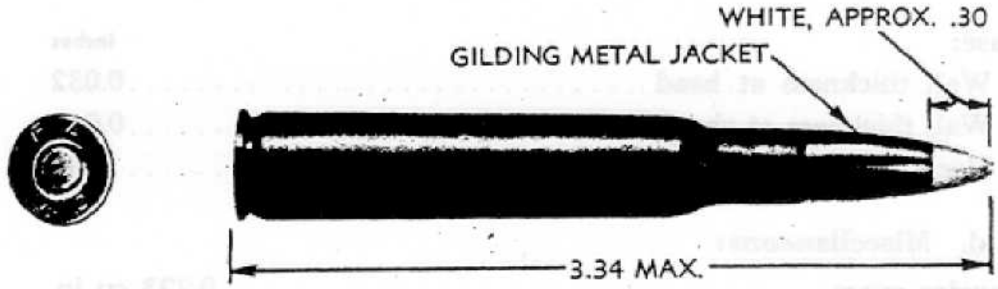


Figure 105—CARTRIDGE, Tracer, Cal. .30, M2

112. CARTRIDGE, TRACER, CAL. .30, M2.

a. Weight:

	Grains
Complete round	397
Bullet:	
Complete	152
Jacket	74
Point (slug)	68
Tracer compound	9.5
Case	(Average) 190
Primer	5.5
Propellant	(Approx.) 50

b. Length:

	Inches
Complete round	3.32
Bullet:	
Complete	1.24
Point (slug)	0.800
Tracer cavity	0.31
Case:	
Over-all	2.49
Headspace	(Average) 1.946
Head thickness	(Average) 0.186

c. Diameter:

	Inches
Bullet	0.308
Jacket wall thickness	0.035
Point (slug)	0.230

Case:	Inches
Wall thickness at head	0.032
Wall thickness at shoulder	0.010
Head	0.47

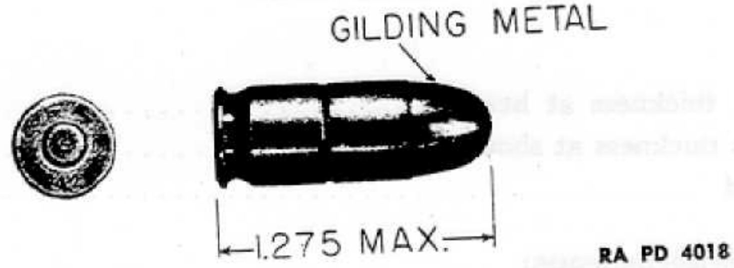
d. Miscellaneous:

Ballistic coefficient	0.355 lb per sq in.
Boat-tailing of base	None
Length of ogive	(Average) 0.734
Base of bullet to origin of rifling	0.65
Muzzle velocity	2,740 ft per sec
Normal pressure	50,000 lb per sq in.
Maximum range	5,500 yd
Length of trace	550 ± 50 yd

NOTE: Tactical use: for aircraft use only.

References

SNL T-1
Drawing No. B175987 (complete round)
Drawing No. B175988 (bullet)
Specification No. FXS-448
TM 9-1900
TM 9-1990



RA PD 4018

Figure 106—CARTRIDGE, Ball, Cal. .45, M1911

113. CARTRIDGE, BALL, CAL. .45, M1911.

a. Weight:

	Grains
Complete round	322
M1911 Alternative	310
Bullet:	
Complete	234
M1911 Alternative	231
Jacket	317
M1911 Alternative	34
Slug	(Average) 196
Case	87
M1911 Alternative	78
Primer	(Average) 4
Propellant	5

b. Length:

	Inches
Complete	(Average) 1.27
Bullet:	
Complete round	(Average) 0.67 in.
Slug	0.656
Case:	
Over-all	0.89
Headspace	0.898
Head thickness	(Minimum) 0.153

c. Diameter:

	Inches
Bullet	(Average) 0.450
Slug	0.411
Jacket wall thickness	0.016

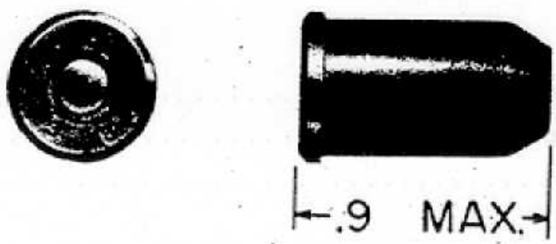
Case:	Inches
Wall thickness at head	0.028
Wall thickness at mouth	0.009
Head	0.48

d. Miscellaneous:

Powder space	0.058 cu in.
Ballistic coefficient	0.112 lb per sq in.
Boat-tailing of base	None
Length of ogive	0.401 in.
Base of bullet to origin of rifling	0.30 in.
Muzzle velocity (5-in. barrel)	830 ft per sec
Muzzle velocity (10.5-in. barrel)	920 ft per sec
Normal pressure	17,000 lb per sq in.
Maximum range (5-inch barrel)	1,600 yd
Maximum range (10.5-inch barrel)	1,700 yd

References

SNL T-2
Drawing No. B503 (complete round)
Drawing No. B136799 (bullet)
Specification No. 50-2-4C
TM 9-1900
TM 9-1990



RA PD 4011

Figure 107—CARTRIDGE, Blank, Revolver, Cal. .45, M1

114. CARTRIDGE, BLANK, REVOLVER, CAL. .45, M1.

a. Weight:	**Grains**
Complete round	123
Case	(Average) 112
Wad	0.6
Primer	(Average) 4.4
Powder charge	6

b. Length:	**Inches**
Complete round	0.90
Case:	
Over-all	0.90
Head thickness	0.160
Rim thickness	0.085

c. Diameter:	**Inches**
Case:	
Wall thickness at head	0.036
Wall thickness at mouth	0.015
Rim	0.525

d. Miscellaneous:

Powder space .... 0.0488 cu in.

References

SNL T-2
Drawing No. B10989
Specification No. FXS-387
TM 9-1900
TM 9-1990

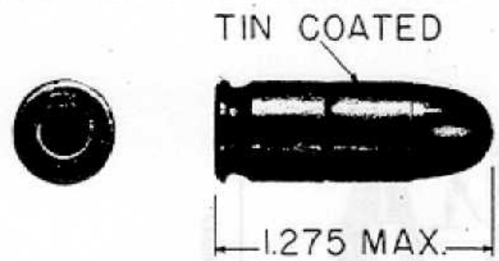


Figure 108—CARTRIDGE, Dummy, Cal. .45, M1921

115. CARTRIDGE, DUMMY, CAL. .45, M1921.

a. **Weight:** Grains

Complete round .... .313

b. **Length:** Inches

Complete round 1.27

Case:

Over-all 0.89

Headspace 0.898

Head thickness 0.153

c. **Diameter:** Inches

Bullet .... (Average) 0.450

Case: head 0.48

References

SNL T-2
Drawing No. B6253 (complete round)
Specification No. 50-2-8A
TM 9-1900
TM 9-1990

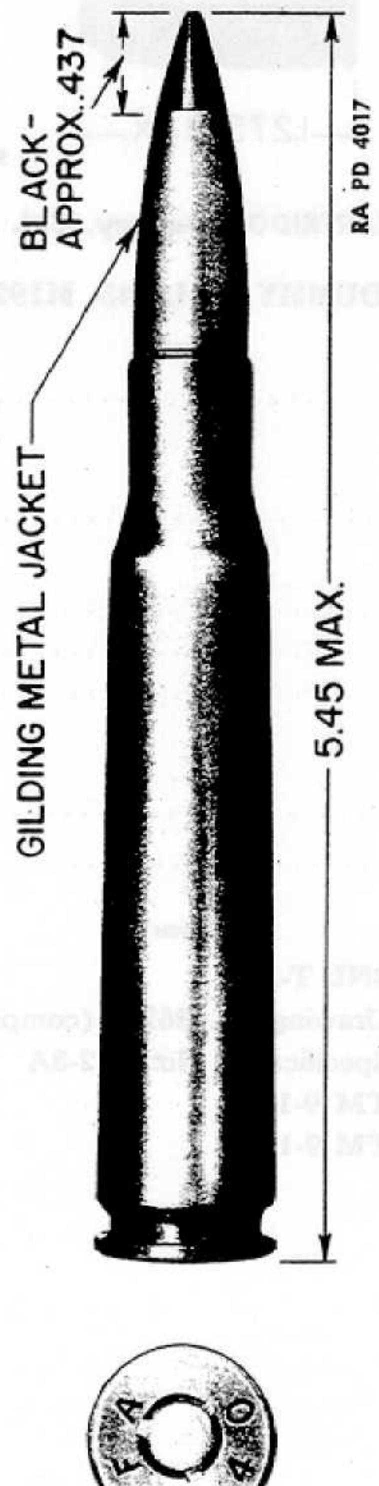


Figure 109—CARTRIDGE, Armor-piercing, Cal. .50, M2

116. CARTRIDGE, ARMOR-PIERCING, CAL. .50, M2.

a. Weight:

	Grains
Complete round (Average)	1788
M2 alternative	1776
Bullet:	
Complete	710
M2 alternative	697
Jacket	250
Core	405
M2 alternative	392
Filler	55.5
Case	825
Primer	18.5
Propellant (Approx.)	235

b. Length:

	Inches
Complete round (Average)	5.42
Bullet:	
Complete	2.28
Core	1.87
Case:	
Over-all	3.90
Headspace	3.000
Head thickness	0.310

c. Diameter:

	Inches
Bullet (Average)	0.510
Core (Average)	0.428
Jacket wall thickness (Average)	0.040
Case:	
Wall thickness at head	0.050
Wall thickness at shoulder	0.020
Head (Average)	0.800

d. Miscellaneous:

Powder space	1.03 cu in.
Ballistic coefficient	0.472 lb per sq in.
Boat-tailing of base	9-deg taper
Length of ogive (Average)	1.345 in.
Base of bullet to origin of rifling	1.31 in.
Muzzle velocity (45-inch barrel)	2,935 ft per sec
Muzzle velocity (36-inch barrel)	2,845 ft per sec
Normal pressure	53,000 lb per sq in.
Maximum range (45-inch barrel)	7,600 yd

References

SNL T-1
Drawing No. C69930 (complete round)
Drawing No. B137655 (bullet)
Drawing No. B177835 (bullet, alternative)
Specification No. 50-4-15
TM 9-1900
TM 9-1990

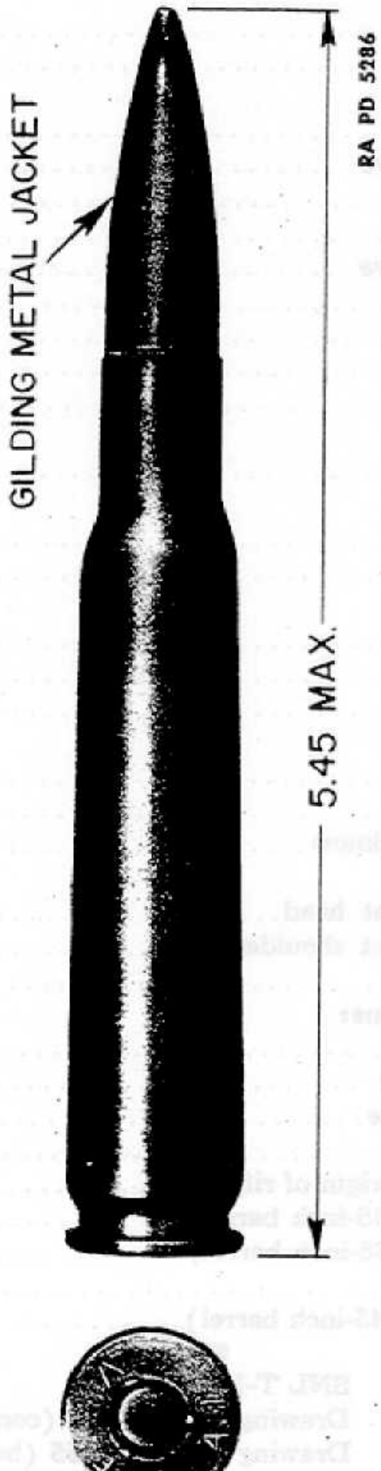


Figure 110—CARTRIDGE, Ball, Cal. .50, M2

117. CARTRIDGE, BALL, CAL. .50, M2.

a. Weight:	Grains (Average)
Complete round	1776
Bullet: Complete	698
Jacket	250
Core	392
Filler	55.5
Case	825
Primer	18.5
Propellant	(Approx.) 235

b. Length:	Inches (Average)
Complete round	5.42
Bullet: Complete	2.28
Core	1.87
Case: Over-all	3.90
Headspace	3.000
Head thickness	0.310

c. Diameter:	Inches (Average)
Bullet	0.510
Core	0.428
Jacket wall thickness	0.040
Case:	
Wall thickness at head	0.050
Wall thickness at shoulder	0.020
Head	0.800

d. Miscellaneous:	
Powder space	1.03 cu in.
Ballistic coefficient	0.467 lb per sq in.
Boat-tailing of base	9-deg taper
Length of ogive	(Average) 1.345 in.
Base of bullet to origin of rifling	1.31 in.
Muzzle velocity (45-inch barrel)	2,935 ft per sec
Muzzle velocity (36-inch barrel)	2,845 ft per sec
Normal pressure	52,000 lb per sq in.
Maximum range (45-inch barrel)	7,600 yd

References

SNL T-1
Drawing No. C77960 (complete round)
Drawing No. B171990 (bullet)
Specification No. 50-4-8
TM 9-1900; TM 9-1990

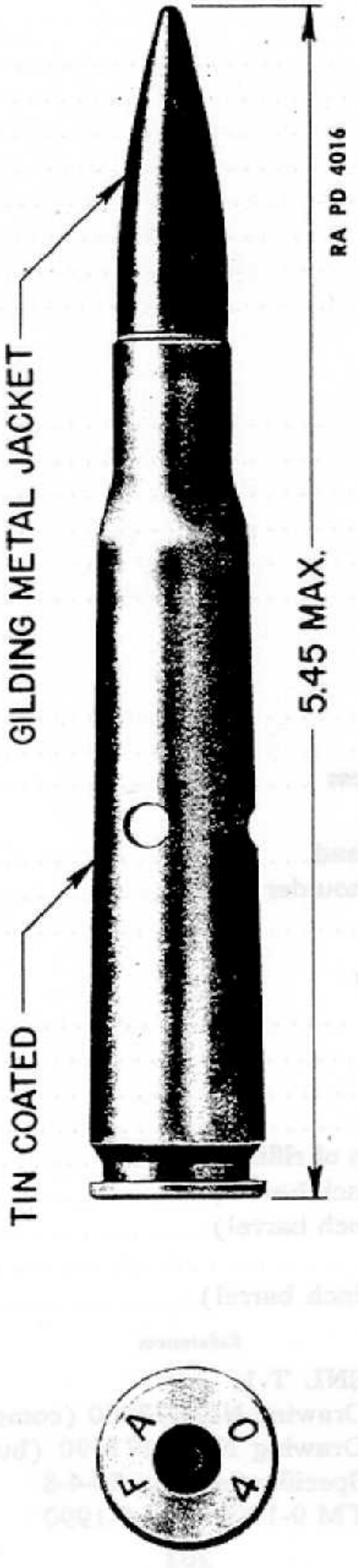


Figure 111—**CARTRIDGE, *Dummy, Cal. .50, M2***

118. CARTRIDGE, DUMMY, CAL. .50, M2.

a. Weight:

		Grains
Complete round:		
With steel bullet	(Average)	1170
With gilding metal bullet		1230

b. Length:

		Inches
Complete round	(Average)	5.42
Case:		
Over-all	(Average)	3.90
Headspace		3.000

c. Diameter:

		Inches
Bullet		0.511
Case: head	(Average)	0.800

References

SNL T-1
Drawing No. C56579 (complete round)
Drawing No. B136684 (bullet)
TM 9-1900
TM 9-1990

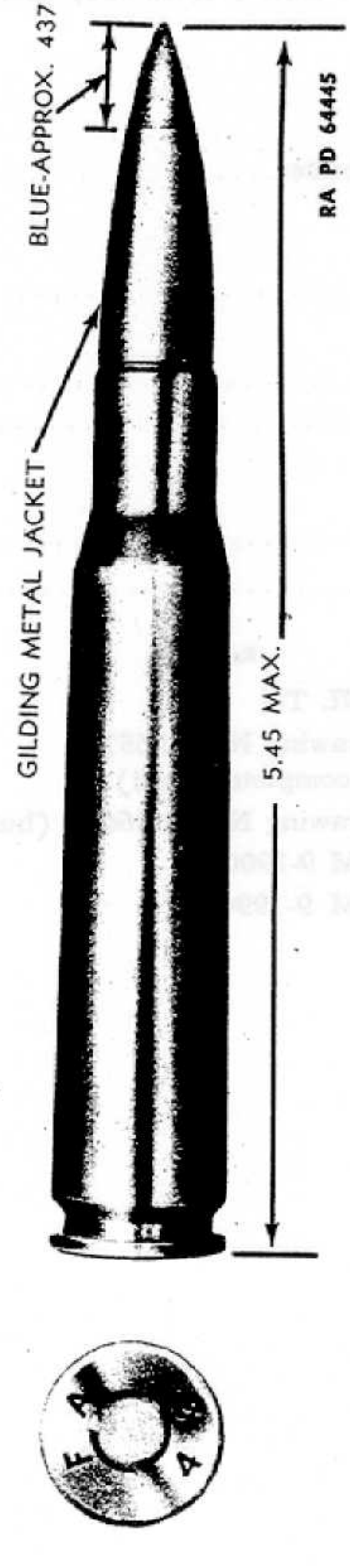


Figure 112—CARTRIDGE, Incendiary, Cal. .50, M1

119. CARTRIDGE, INCENDIARY, CAL. .50, M1.

a. Weight:

	Grains
Complete round	1704
Bullet: complete	(Average) 620
Case	(Average) 825
Primer	(Average) 18.5
Propellant	(Approx.) 240

b. Length:

	Inches
Complete round	(Average) 5.42
Bullet: complete	2.28
Case:	
Over-all	3.90
Headspace	3.000
Head thickness	0.310

c. Diameter:

	Inches
Bullet	(Average) 0.510
Case:	
Wall thickness at head	0.050
Wall thickness at shoulder	0.020
Head	(Average) 0.800

d. Miscellaneous:

Ballistic coefficient	0.317 lb per sq in.
Boat-tailing of base	9-deg taper
Length of ogive	(Average) 1.36 in.
Base of bullet to origin of rifling	1.31 in.
Muzzle velocity (36-inch barrel)	3,100 ft per sec
Normal pressure	52,000 lb per sq in.
Maximum range (36-inch barrel)	7,600 yd

References

SNL T-1
Drawing No. C79812 (complete round)
Drawing No. B174991 (Bullet)
Specification No. AXS-657

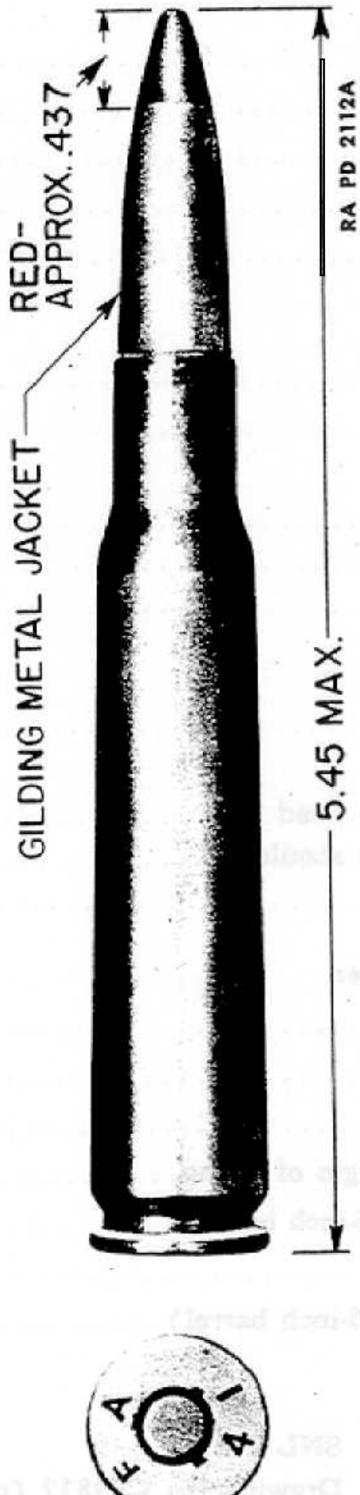


Figure 113—CARTRIDGE, Tracer, Cal. .50, M1

120. CARTRIDGE, TRACER, CAL. .50, M1.

a. Weight:

	Grains
Complete round (Average)	1760
Bullet:	
Complete	676
Jacket	400
Slug	206
Tracer compound	70
Case	825
Primer	18.5
Propellant (Approx.)	240

b. Length:

	Inches
Complete round (Average)	5.42
Bullet:	
Complete	2.38
Slug	1.15
Tracer cavity	1.12
Case:	
Over-all	3.90
Headspace	3.000
Head thickness	0.310

c. Diameter:

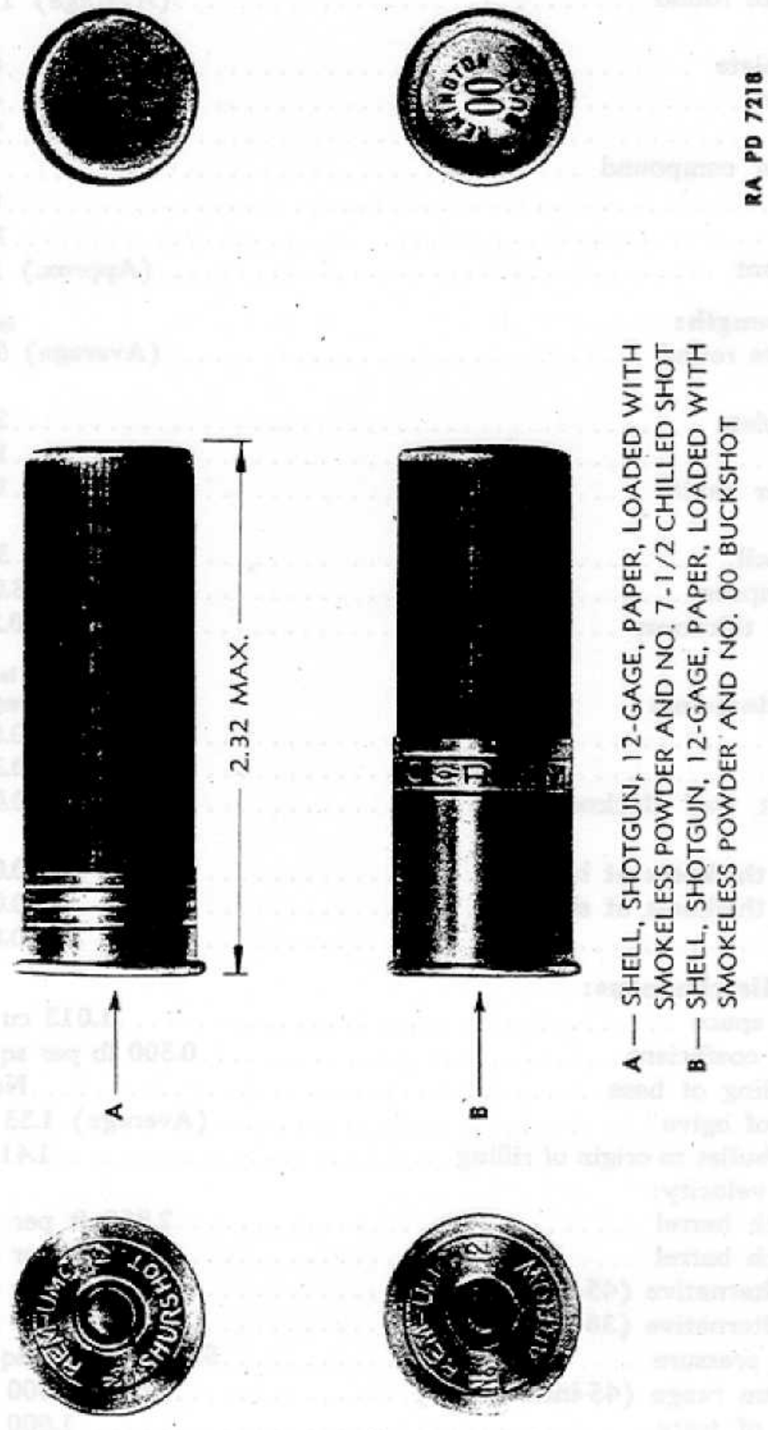
	Inches (Average)
Bullet	0.510
Slug	0.364
Jacket wall thickness	0.070
Case:	
Wall thickness at head	0.050
Wall thickness at shoulder	0.020
Head	0.800

d. Miscellaneous:

Powder space	1.013 cu in.
Ballistic coefficient	0.500 lb per sq in.
Boat-tailing of base	None
Length of ogive (Average)	1.33 in.
Base of bullet to origin of rifling	1.41 in.
Muzzle velocity:	
45-inch barrel	2,860 ft per sec
36-inch barrel	2,730 ft per sec
M1 alternative (45-inch barrel)	3,020 ft per sec
M1 alternative (36-inch barrel)	2,890 ft per sec
Normal pressure	52,000 lb per sq in.
Maximum range (45-inch barrel)	7,300 yd
Length of trace	1,600 yd

References

SNL T-1
Drawing No. C44843 (complete round)
Drawing No. B129831 (bullet)
Specification No. 50-4-5
TM 9-1900
TM 9-1990



A — SHELL, SHOTGUN, 12-GAGE, PAPER, LOADED WITH SMOKELESS POWDER AND NO 7-1/2 CHILLED SHOT
B — SHELL, SHOTGUN, 12-GAGE, PAPER, LOADED WITH SMOKELESS POWDER AND NO. 00 BUCKSHOT

Figure 114—Shells Shotgun, 12-Gage

121. SHELL, SHOTGUN, 12-GAGE.

a. Weight:	Guard or Combat Load	Trap or Skeet Load
Complete shell	(Approx.) 800 grains	(Approx.) 750 grains
Bulk powder charge	(Equivalent) 3 drams	(Equivalent) 3 drams
Shot charge	1⅛ oz	1⅛ oz
Shot pellets	119 per lb	407 per oz
b. Length:		
Over-all	(Approx.) 2.5 in.	(Approx.) 2.5 in.
c. Diameter:		
Mouth of case	0.797 in.	0.797 in.
Rim of case	0.880 in.	0.880 in.
Pellets	0.340 in.	0.09 in.
d. Miscellaneous:		
Shot sizes	No. 00	No. 8 chilled
Approximate number of shot	9	458
Average velocities over a range of 40 yards fired from a 30-inch full-choke barrel	1,070 ± 30 ft per sec	855 ± 40 ft per sec
Patterns in percentage of shot in a 30 inch-diameter circle at 40 yards	33⅓ per cent in a 20-in. cylinder-bore, riot-type barrel.	Trap: 65 per cent in a 30-in. full-choke barrel; skeet: 40 per cent in a 26-in. cylinder-bore barrel.
Maximum range	748 yd	198 yd
Normal pressure	11,000 lb per sq in.	11,000 lb per sq in.

References

SNL T-3
Specification No. 50-5-1B
TM 9-285
TM 9-1900
TM 9-1990

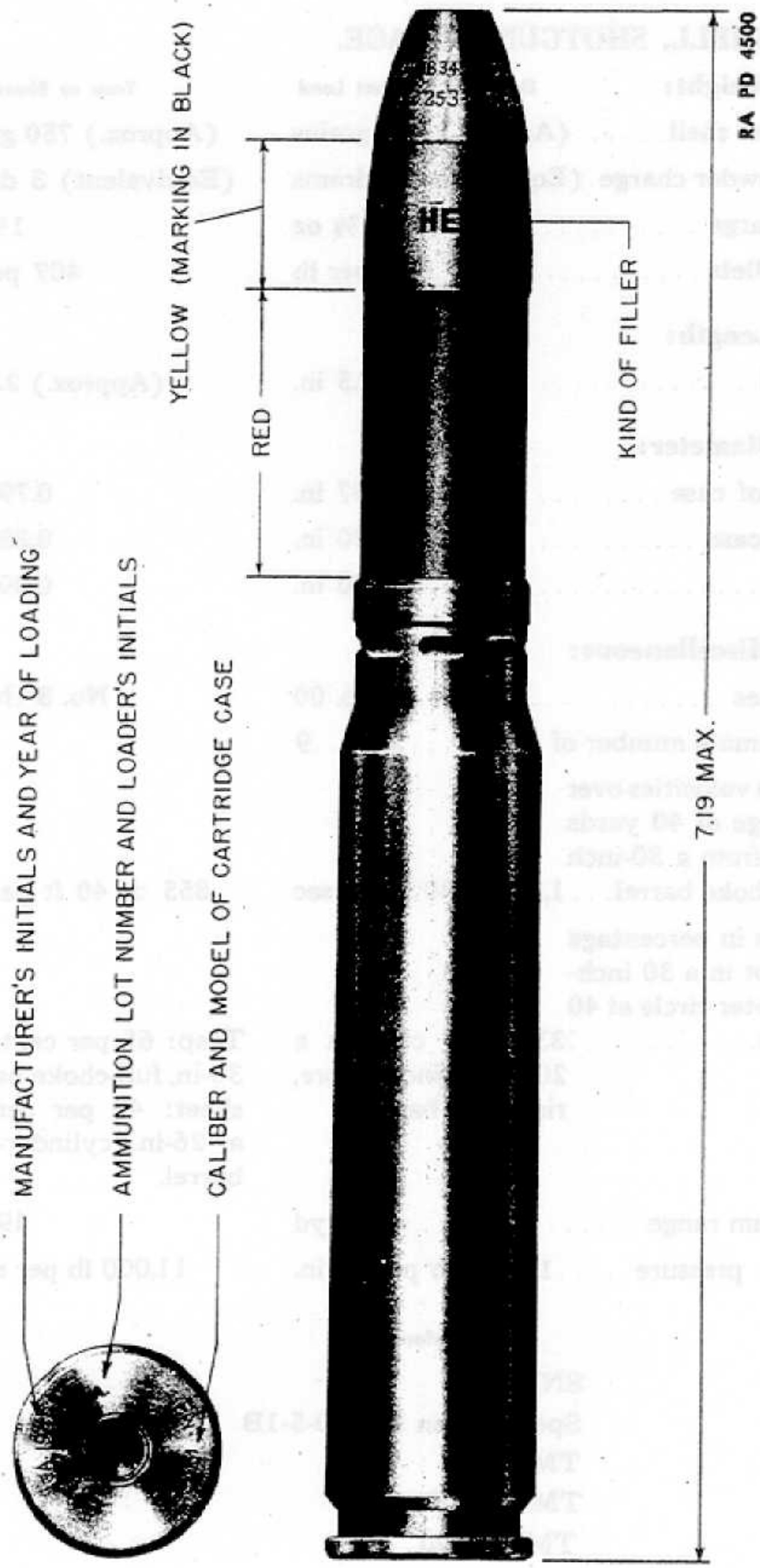


Figure 115—CARTRIDGE, HE-I, Mk. I, w/Fuze, P.D., No. 253 Mk. I-II, 20-mm Guns, M1, AN-M2, and Br. H.S./A/

122. CARTRIDGE, HE-I, MK. I, w/FUZE, P.D., NO. 253 MK. I-II, 20-MM GUNS, M1, AN-M2, AND BR. H.S./A/.

a. Weight:	Grains
Complete round	3,990
Projectile, with fuze:	
Complete	(Average) 2,000
H.E.I. filler	174
Fuze	415
Case	1,435
Primer	25.65
Propellant	(Average) 480

b. Length:	Inches
Complete round	7.19
Projectile, with fuze: complete	3.21
Case:	
Over-all	4.342
Headspace	3.732
Head thickness	0.378

c. Diameter:	Inches
Projectile	0.784
Case:	
Wall thickness at head	0.049
Wall thickness at shoulder	0.034
Head	0.976

d. Miscellaneous:	
Powder space	2.22 cu in.
Ballistic coefficient	0.452 lb per sq in.
Boat-tailing of base	None
Velocity at 90 feet	2,770 ft per sec
Normal pressure	45,000 lb per sq in.
Maximum range	5,100 yd

References

SNL R-1

Drawing No. 75-1-124 (complete round)

Drawing No. 75-14-302 (projectile)

Specification No. PXS-871

TM 9-227

TM 9-1900

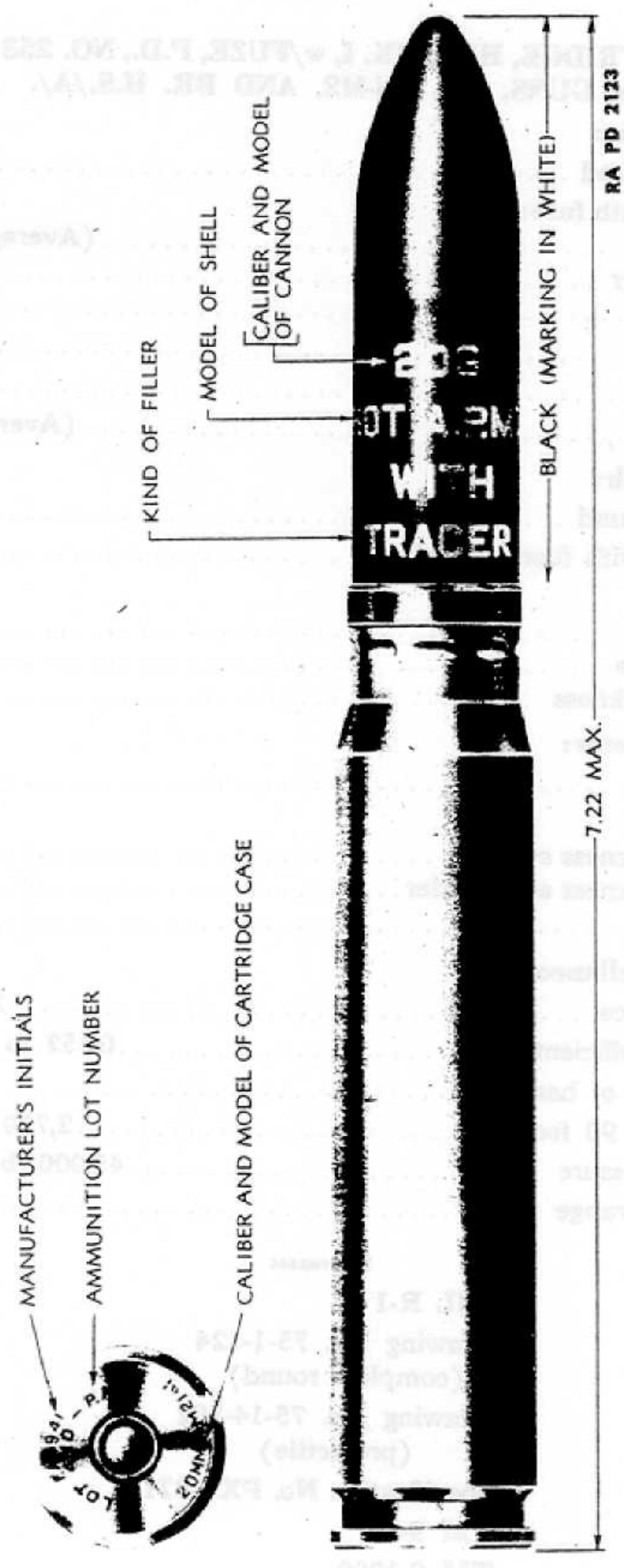


Figure 116—CARTRIDGE, AP-T, M75, 20-mm Guns, M1, AN-M2, and Br. H.S./A/

123. CARTRIDGE, AP-T, M75, 20-MM GUNS, M1, AN-M2, AND BR. H.S./A/.

a. Weight:	Grains
Complete round	4,473
Projectile:	
Complete	(Max.) 2,568
Tracer	42
Case	1,435
Primer	25.65
Propellant	480

b. Length:	Inches
Complete round	7.22
Projectile:	
Complete	3.25
Tracer cavity	0.76
Case:	
Over-all	4.342
Headspace	3.732
Head thickness	0.378

c. Diameter:	Inches
Projectile	7.84
Case:	
Wall thickness at head	0.049
Wall thickness at shoulder	0.034
Head	0.976

d. Miscellaneous:	
Powder space	2.22 cu in.
Ballistic coefficient	0.613 lb per sq in.
Boat-tailing of base	None
Length of ogive	1.054
Velocity at 90 feet	2,510 ft per sec
Normal pressure	46,300 lb per sq in.
Maximum range	6,300 yd
Length of trace	(Min.) 3 sec

References

SNL R-1

Drawing No. 75-1-131 (complete round)

Drawing No. 75-14-316 (projectile)

Specification No. PXS-937

TM 9-227

TM 9-1900

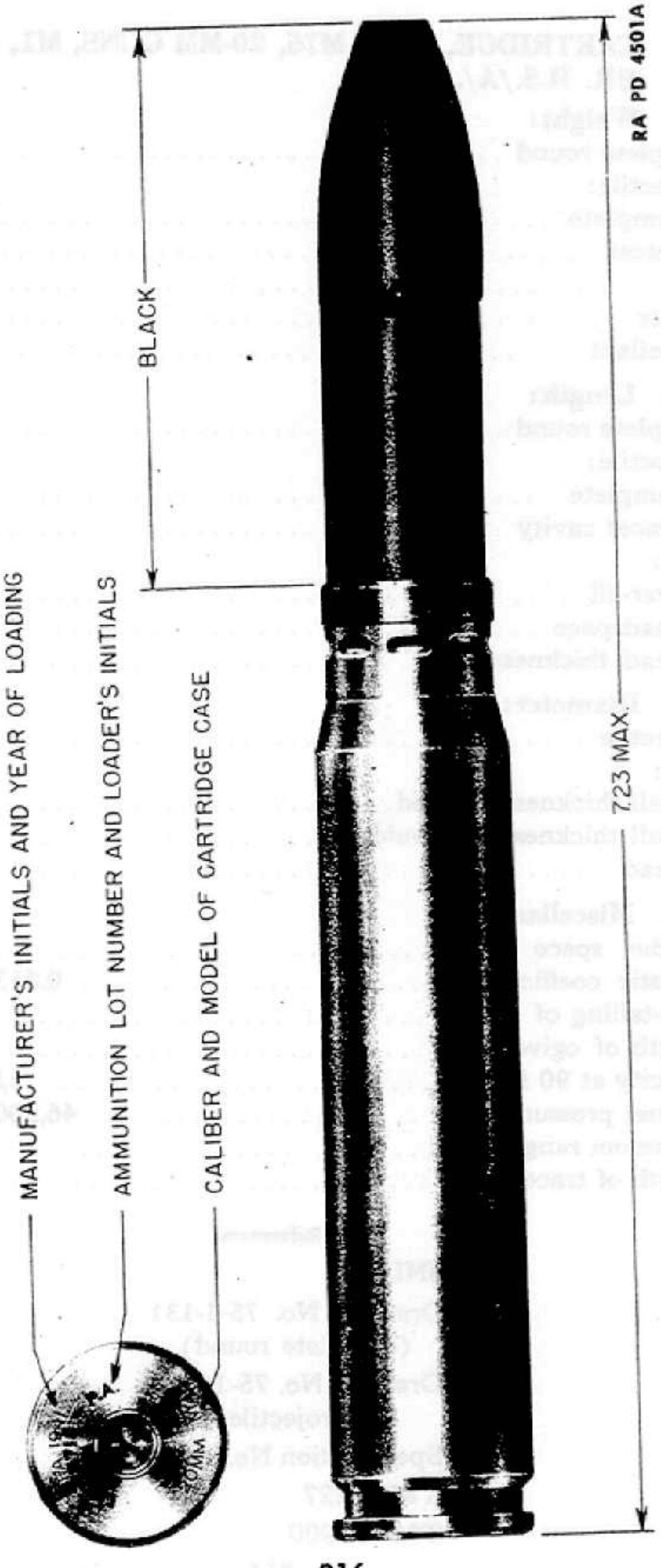


Figure 117—CARTRIDGE, Ball, 20-mm Guns, M1, AN-M2, and Br. H.S./A/

124. CARTRIDGE, BALL, 20-MM GUNS, M1, AN-M2, AND BR. H.S./A/.

a. Weight:	Grains
Complete round	3,920
Projectile: complete (Max.)	2,030
Case	1,435
Primer	25.65
Propellant	507

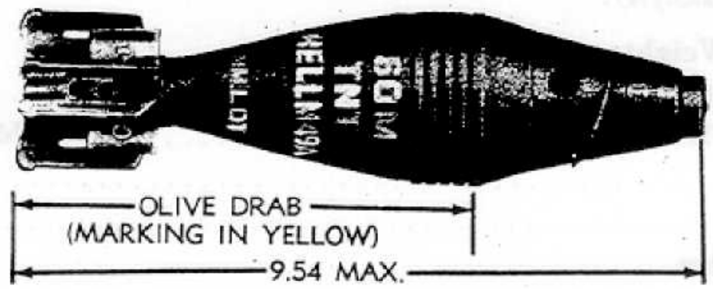
b. Length:	Inches
Complete round	7.23
Projectile: complete	2.73
Case:	
Over-all	4.342
Headspace	3.732
Head thickness	0.378

c. Diameter:	Inches
Projectile	0.784
Case:	
Wall thickness at head	0.049
Wall thickness at shoulder	0.034
Head	0.976

d. Miscellaneous:	
Powder space	2.20 cu in.
Ballistic coefficient	0.457 lb per sq in.
Boat-tailing of base	None
Length of ogive	1.089
Velocity at 90 feet	2,770 ft. per sec
Normal pressure	45,100 lb per sq in.
Maximum range	5,300 yd

References

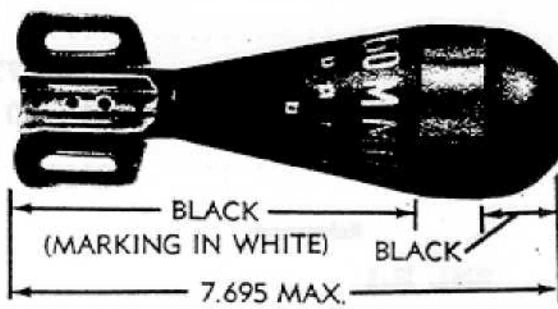
SNL R-1
Drawing No. 75-1-125 (complete round)
Drawing No. 75-2-299 (projectile)
Specification No. PXS-884
TM 9-227
TM 9-1900



SHELL, H.E. M49A2, W/FUZE, P.D., M52, 60-MM MORTARS
M1 AND M2, COMPLETE ROUND



SHELL, ILLUMINATING, M83, W/FUZE, TIME (FIXED), M65;
60-MM MORTARS, M1 AND M2, COMPLETE ROUND



COMPLETE ROUND, SHELL, TRAINING, M69, 60-MM MORTARS;
M1 AND M2

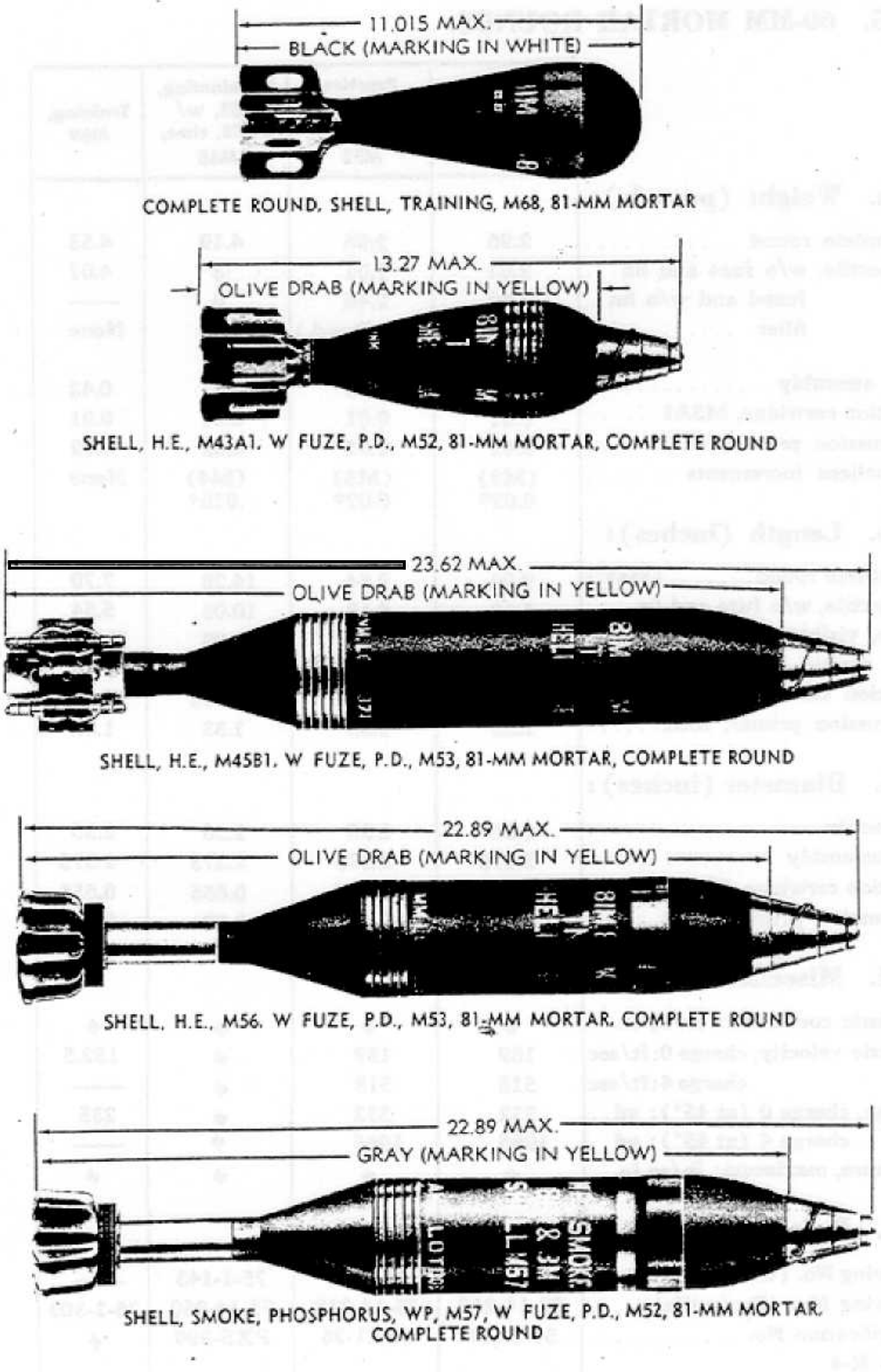
RA PD 64448

Figure 118—60-mm Mortar Rounds

125. 60-MM MORTAR ROUNDS.

	H. E., M49A2, w/FUZE, P.D., M52	Practice, M50A2, w/ FUZE, P. D., M52	Illuminating, M83, w/ FUZE, time, M65	Training, M69
a. Weight (pounds):				
Complete round	2.96	2.96	4.19	4.53
Projectile, w/o fuze and fin	2.01	2.01	φ	4.07
fuzed and w/o fin	2.46	2.46	φ	——
filler	(TNT) 0.34	(Blk.Powd.) 0.05	0.49	None
Fin assembly	0.43	0.43	0.43	0.43
Ignition cartridge, M5A1	0.01	0.01	0.01	0.01
Percussion primer, M32	0.02	0.02	0.02	0.02
Propellent increments	(M3) 0.02*	(M3) 0.02*	(M4) .016*	None
b. Length (inches):				
Complete round (Max.)	9.54	9.54	14.28	7.70
Projectile, w/o fuze and fin	5.18	5.18	10.08	5.54
Fuze, visible portion	2.36	2.36	1.99	None
Fin, visible portion	2.16	2.16	2.16	2.16
Ignition cartridge, M5A1	0.516	0.516	0.516	0.516
Percussion primer, M32	1.33	1.33	1.33	1.33
c. Diameter (inches):				
Projectile	2.36	2.36	2.36	2.36
Fin assembly	2.375	2.375	2.375	2.375
Ignition cartridge, M5A1	0.655	0.655	0.655	0.655
Percussion primer, M32	0.82	0.82	0.82	0.82
d. Miscellaneous:				
Ballistic coefficient: lb/sq in.	φ	φ	φ	φ
Muzzle velocity, charge 0: ft/sec	189	189	φ	152.5
charge 4: ft/sec	518	518	φ	——
Range, charge 0 (at 45°): yd.	332	332	φ	235
charge 4 (at 45°): yd.	1985	1985	φ	——
Pressure, maximum: lb/sq in.	φ	φ	φ	φ
e. References:				
Drawing No. (C/R)	75-1-82	75-1-83	75-1-143	——
Drawing No. (Projectile)	75-14-257	75-14-238	75-14-350	75-2-303
Specification No.	50-21-26	50-21-26	PXS-999	φ
SNL R-4				
TM 9-1900				

*For four (4) increments.
φ Data not available at time of publication.
Blk. Powd.—Black powder.



RA PD 64449

Figure 119—3-in. Trench and 81-mm Mortar Rounds

126. 3-IN. TRENCH AND 81-MM MORTAR ROUNDS.

81-mm mortar ammunition is adapted for use in the 3-inch trench mortar by reducing the outer zone propelling charge for the M43A1 and M44 Shell from 6 to 4 increments, and for the M56 and M57 Shell, from 4 to 3 increments; for the M45 and M45B1 Shell, the full charge of 4 increments may be used.

	Gas, H, M57, w/FUZE, P.D., M52	H.E., M43A1, w/FUZE, P.D., M52	H.E., M45B1, w/FUZE, P.D., M53	H.E., M56, w/FUZE, P.D., M53	Practice, M43A1, w/FUZE, P.D., M52	Practice, M44, w/FUZE, P.D., M52	Smoke, FS, M57, w/FUZE, P.D., M52	Smoke, WP, M57, w/FUZE, P.D., M52	Training, M68
a. Weight (pounds):									
Complete round	10.66	7.05	15.15	10.85	7.1	7.1	12.07	11.57	10.82
Projectile, w/o fuze and fin	9.05	5.48	12.60	9.15	5.48	4.49	10.47	9.97	9.8
fuzed and w/o fin	9.50	5.93	13.14	9.69	6.02	4.94	10.92	10.42	......
filler	(H) 3.15	(TNT) 1.23	(TNT) 4.48	(TNT) 4.30	(Blk. Po.) 0.05	(Blk. Po.) 0.19	(FS) 4.59	(WP) 4.09	None
Fin assembly	0.89	0.95	1.87	0.89	0.95	0.95	0.89	0.89	0.95
Ignition cartridge	(M6) 0.03	(M6) 0.03	(M3) 0.07	(M6) 0.03	(M6) 0.03	(M6) 0.03	(M6) 0.03	(M6) 0.03	(M6) 0.03
Percussion primer	(M34) 0.11	(M33) 0.04	......	(M34) 0.11	(M33) 0.04	(M33) 0.04	(M34) 0.11	(M34) 0.11	(M33) 0.04
Propellent increments	(M2) 0.12*†	0.10‡	0.07*	(M2) 0.12*†	0.10‡	0.10‡	(M2) 0.12*†	(M2) 0.12*†	None
b. Length (inches):									
Complete round (Max.)	22.89	13.27	23.62	22.89	13.27	13.27	22.89	22.89	11.08
Projectile, w/o fuze and fin	15.1	7.74	16.51	14.50	7.74	7.74	15.1	15.1	7.92
Fuze, visible portion	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	None
Fin, visible portion	5.41	3.16	4.06	5.41	3.16	3.16	5.41	5.41	3.16
Ignition cartridge	(M6) 2.13	(M6) 2.13	(M3) 2.64	(M6) 2.13	(M6) 2.13	(M6) 2.13	(M6) 2.13	(M6) 2.13	(M6) 2.13
Percussion primer	(M34) 0.761	(M33) 0.586	......	(M34) 0.761	(M33) 0.586	(M33) 0.761	(M34) 0.761	(M34) 0.761	(M33) 0.586
c. Diameter (inches):									
Projectile	3.175	3.175	3.175	3.175	3.175	3.175	3.175	3.175	3.175
Fin assembly	3.181	3.181	3.181	3.181	3.181	3.181	3.181	3.181	3.181
Ignition cartridge	(M6) 0.795	(M6) 0.795	(M3) 0.889	(M6) 0.795	(M6) 0.795	(M6) 0.795	(M6) 0.795	(M6) 0.795	(M6) 0.795
Percussion primer	(M34) 1.00	(M33) 1.00	......	(M34) 1.00	(M33) 1.00	(M33) 1.00	(M34) 1.00	(M34) 1.00	(M33) 1.00
d. Miscellaneous:									
Ballistic coefficient: lb/sq in.	φ	φ	φ	φ	φ	φ	φ	φ	φ
Muzzle velocity, charge 0: ft/sec	φ	71.6	φ	φ	71.6	φ	φ	φ	172.8
charge 4: ft/sec	φ	174.3	115.8	583	174.3	φ	544	560	......
charge 6: ft/sec	......	213.4	......	......	213.4	φ	......	......	......
Range, charge 0 (at 45°): yd	φ	560	210	φ	560	560	φ	φ	306
charge 4 (at 45°): yd	φ	2,560	1,280	2,655	2,560	2,560	2,431	2,470	......
charge 6 (at 45°): yd	......	3,290	......	......	3,290	3,290	......	......	......
Pressure, maximum: lb/sq in.	φ	φ	φ	φ	φ	φ	φ	φ	φ
e. References:									
Drawing No. (C/R)	75-1-128	75-1-88	75-1-77	75-1-97	75-1-89	75-1-90	75-1-94	75-1-93	......
Drawing No. (Projectile)	75-14-308	75-14-192	75-14-227	75-14-254	75-14-212	75-2-263	75-14-255	75-14-256	75-2-302
Specification No.	50-21-29	50-21-11A	50-21-11A	50-21-11A	15-21-15	φ	50-21-29	50-21-29	φ
SNL R-4; TM 9-1900									

* For 4 increments.
φ Data not available at time of publication.
† Not more than 3 increments to be used in 3" trench mortar. Blk. Po.—Black powder.
‡ For 6 increments. Not more than 4 to be used in 3" trench mortar.

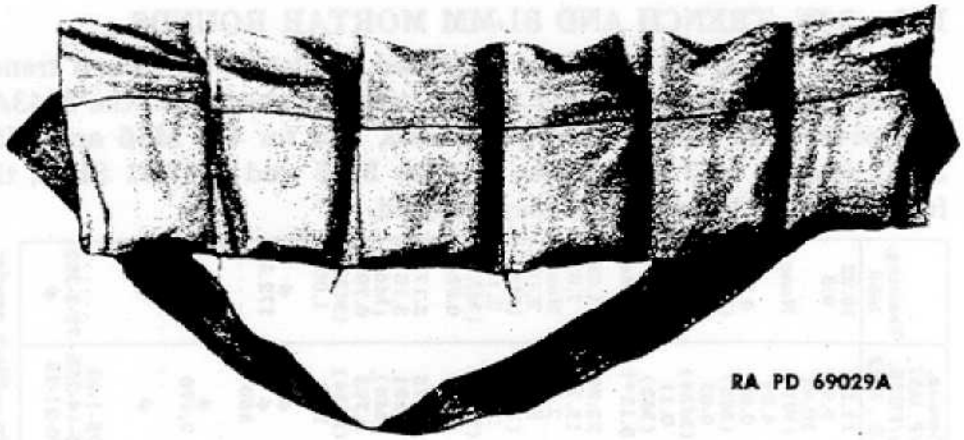


Figure 120—BANDOLEER, M1 (for 5-rd. and 8-rd. Clips)

127. BANDOLEER, M1 (FOR 5-RD. AND 8-RD. CLIPS).

a. **Weight:**

Empty	*
With six 5-rd. loaded clips	4 lb
With six 8-rd. loaded clips	3.5 lb

b. **Length:**

	Inches
Bandoleer	22.5 in.
Strap	41 in.

References

SNL T-5
Drawing No. D43490 (empty)
Drawing No. D43491 (filled)
TM 9-1990

* Data were not available at time of publication.

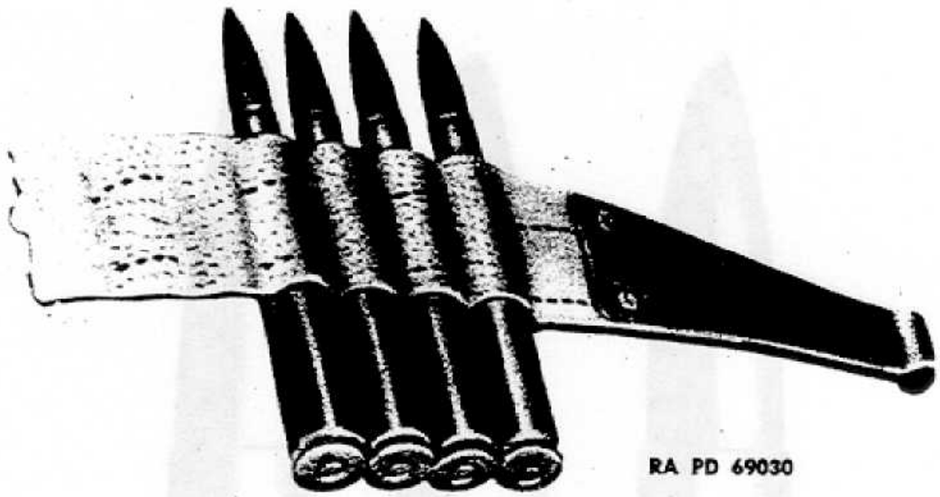


Figure 121—BELT, Ammunition, Cal. .30, M1917 (250-rd.)

128. BELT, AMMUNITION, CAL. 30, M1917 (250-RD.).

Weight:

Empty . . . . 0.4 lb

Filled with 250 armor-piercing cal. .30 M2 cartridges . . . . . . 15.2 lb

Length . . . . 186 in.

Extraction pull . . . . 4 to 11 lb

References

SNL T-5
Drawing No. C3951
Specification No. 52-5-4B
Specification No. AXS-676
TM 9-1990

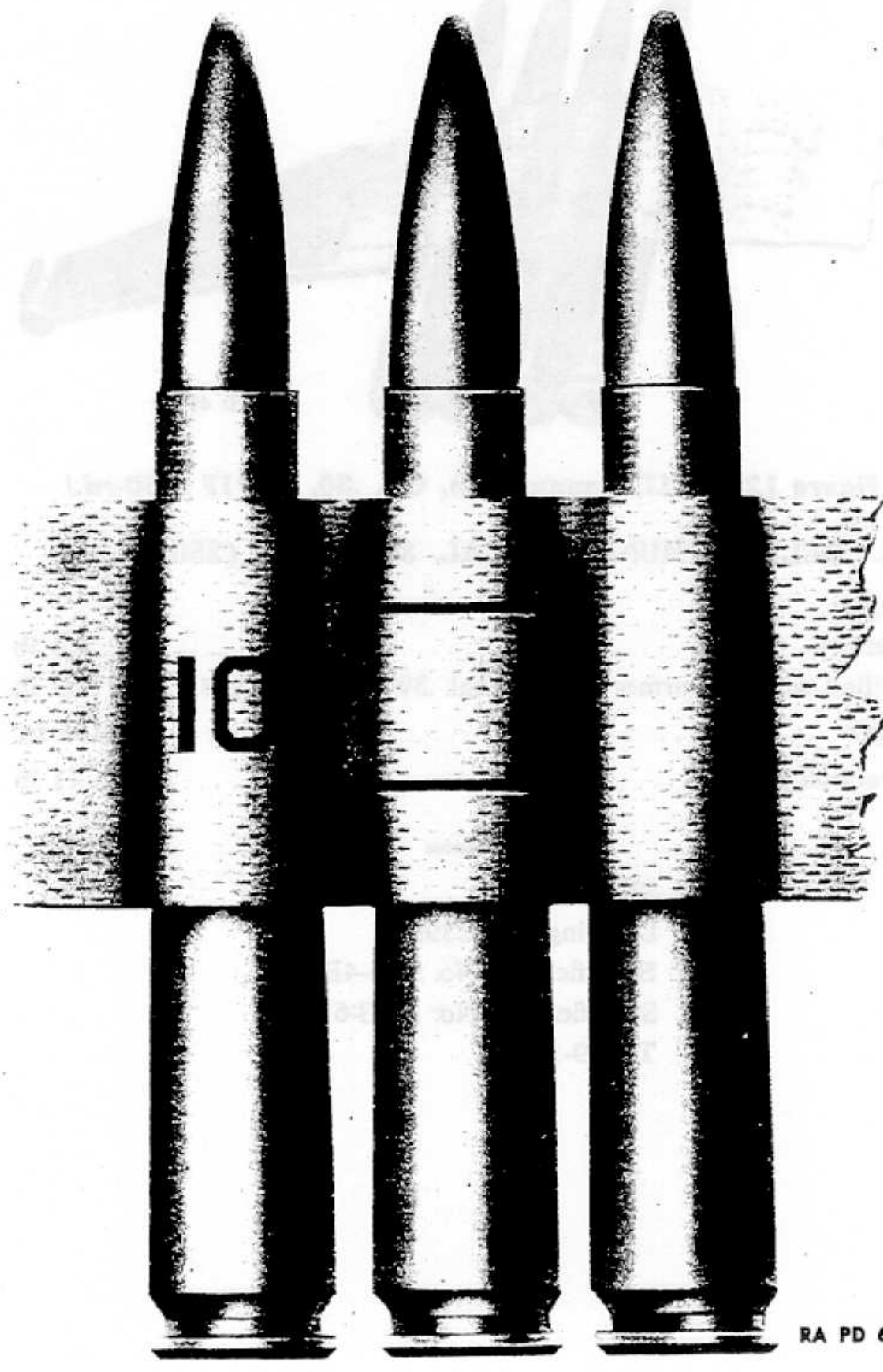


Figure 122—BELT, Ammunition, Fabric, Cal. .50, M7 (110-rd.)

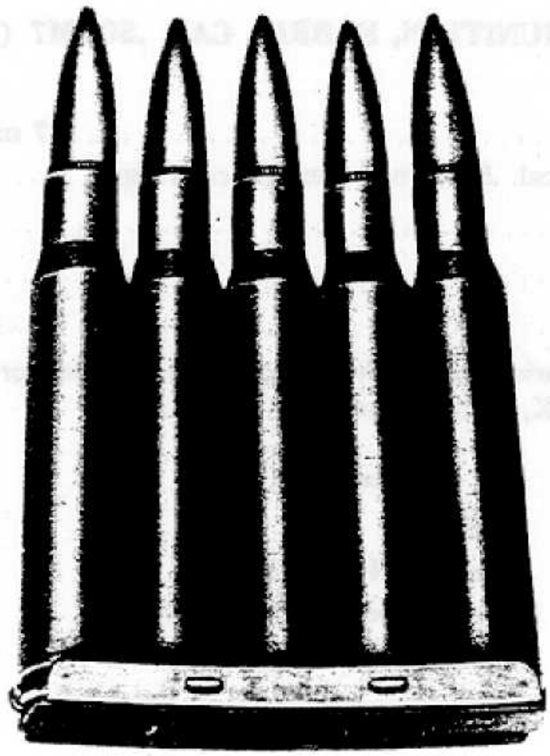
129. BELT, AMMUNITION, FABRIC, CAL. .50, M7 (110-RD.).

Weight:	
Empty	7 oz (0.44 lb)
Filled with 110 cal. .50 armor-piercing cartridges	28.5 lb
Length: over-all	10.5 ft
Width	1.6 in.
Extraction pull	10 to 30 lb

NOTE: With fabric tab attached at one end. Loaded prior to issue and packed in BOX, ammunition, cal. .50, M2.

References

SNL T-5
Drawing No. C113699
Specification No. AXS-874
Specification No. 52-5-4B





RA PD 69032

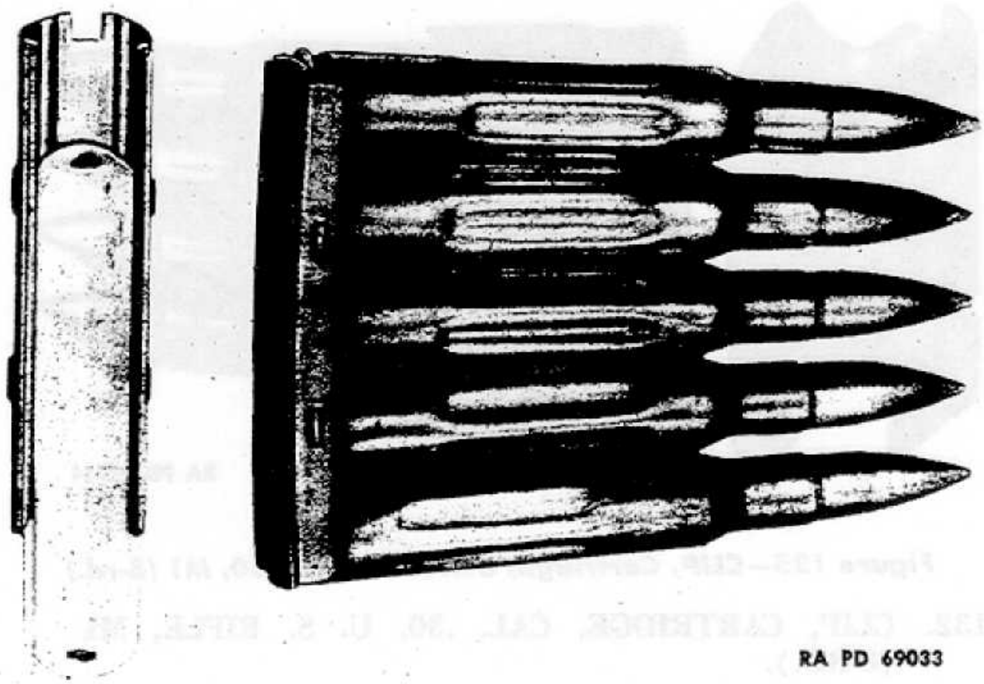
Figure 123—CLIP, Cartridge, Cal. .30 (5-rd.) (Steel)

130. CLIP, CARTRIDGE, CAL. .30 (5-RD.).

Weight: complete assembly	Average 112 gr
Body	Average 89 gr
Spring	Average 23 gr
Length	2.37 in.
Width	0.63 in.

References

SNL T-5
Drawing No. B6919
Specification No. FXS-452
TM 9-1990



RA PD 69033

Figure 124—CLIP, Cartridge, Dummy, Cal. .30 (5-rd.)

131. CLIP, CARTRIDGE, DUMMY, CAL. .30 (5-RD.).

a. The data for this cartridge are the same as those for CLIP, cartridge, cal. .30 (5-rd.) given in paragraph 118. However, the spring for this clip does not have the two end tongues.

References

SNL T-5
Drawing No. B6920
Specification No. FXS-452
TM 9-1990

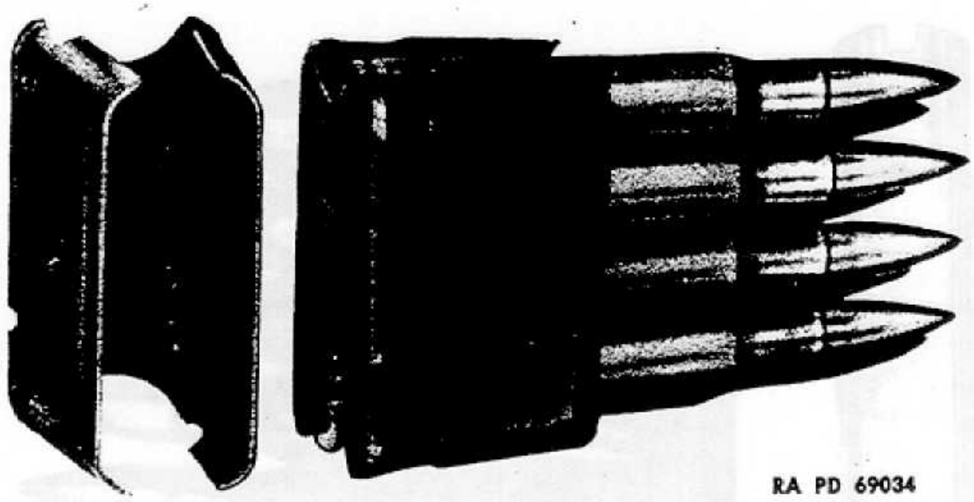


Figure 125—CLIP, Cartridge, U.S. Rifle, Cal. .30, M1 (8-rd.)

132. CLIP, CARTRIDGE, CAL. .30, U. S. RIFLE, M1 (8-RD.).

Weight	(Approx.) 1 oz
Length	2.12 in.
Width	1.06 in.
Height	Average 1.32 in.

References

SNL T-5
Drawing No. D28288
Specification No. 52-3-8
TM 9-1990

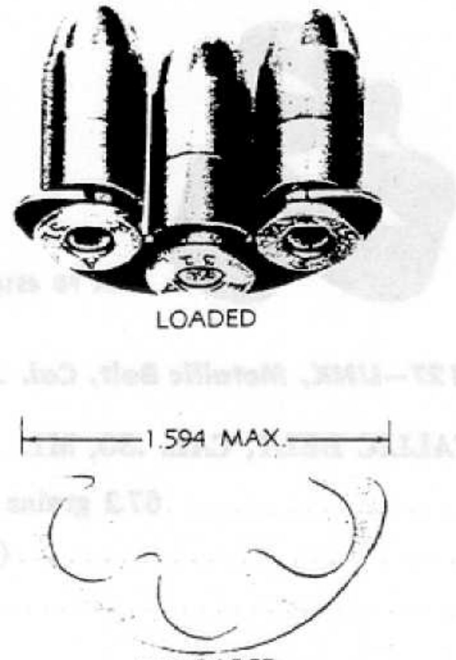


Figure 126—CLIP, Cartridge, Cal. .45, for Revolver Ball Cartridge

133. CLIP, CARTRIDGE, CAL. .45, FOR REVOLVER BALL CARTRIDGE.

Weight .... (Approx.) 8 grains
Length .... 1.59 in.
Width .... 0.80 in.
Thickness .... 0.040 in.

References

SNL T-5
Drawing No. C64150
TM 9-1990


RA PD 4516A

Figure 127—LINK, Metallic Belt, Cal. .30, M1

134. LINK, METALLIC BELT, CAL. .30, M1.

Weight	67.2 grains (0.96 lb per 100)
Pitch	(Average) 0.51 in.
Extraction pull	5 to 10 lb

References

SNL T-5
Drawing No. C59722
Specification No. 52-7-2D
TM 9-1990

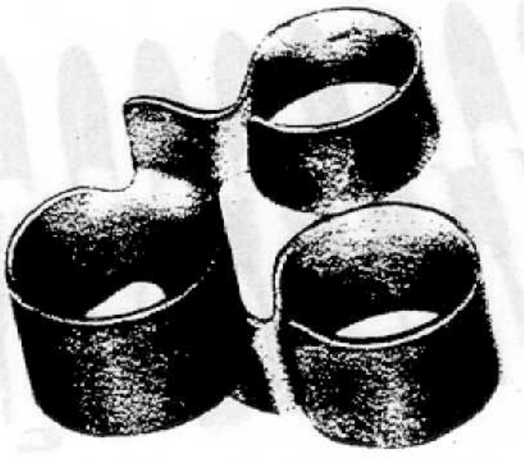


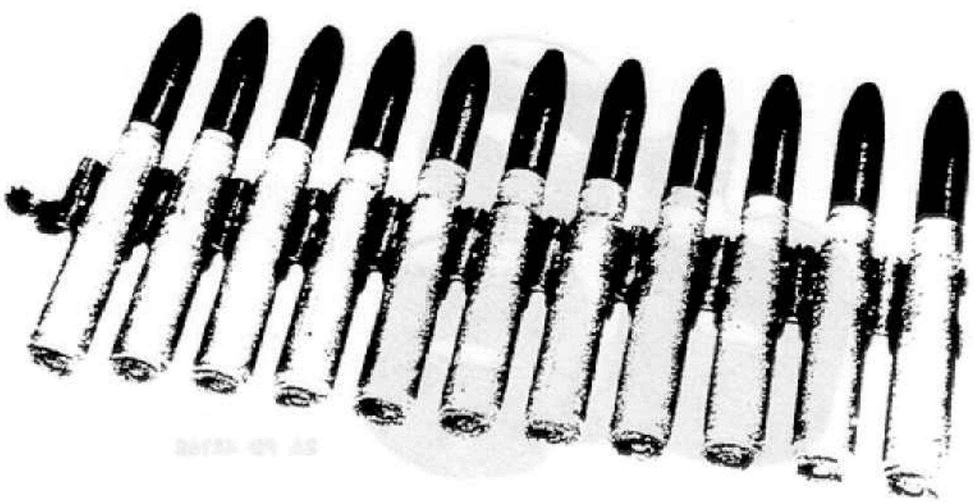
Figure 128—LINK, Metallic Belt, Cal. .50, M2

135. LINK, METALLIC BELT, CAL. .50, M2.

Weight .... (Average) 267 grains (3.8 lb per 100 links)
Pitch .... (Average) 0.93 in.
Extraction pull .... 10 to 25 lb

References

SNL T-5
Drawing No. D37987
Specification No. 52-7-2D
TM 9-1990



RA PD 66742

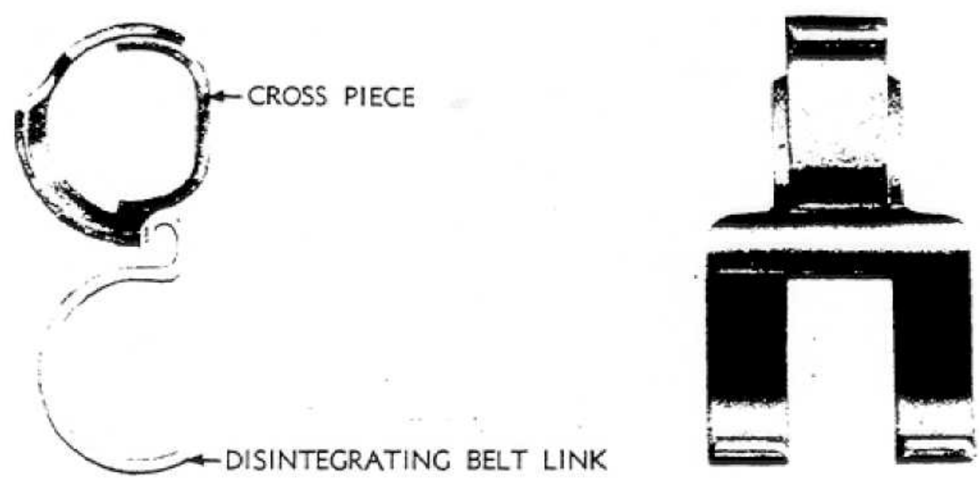
Figure 129—Rounds linked with LINK, Disintegrating Belt, 20-mm, M3

136. LINK, DISINTEGRATING BELT, 20-MM, M3.

Weight . . . . (Approx.) 2½ oz
Pitch 1.33

References

SNL R-1
Drawing No. C70661
Specification No. WVXS-57
TM 9-227



RA PD 10931

Figure 130—LINK, End, Disintegrating Belt, 20-mm, M4

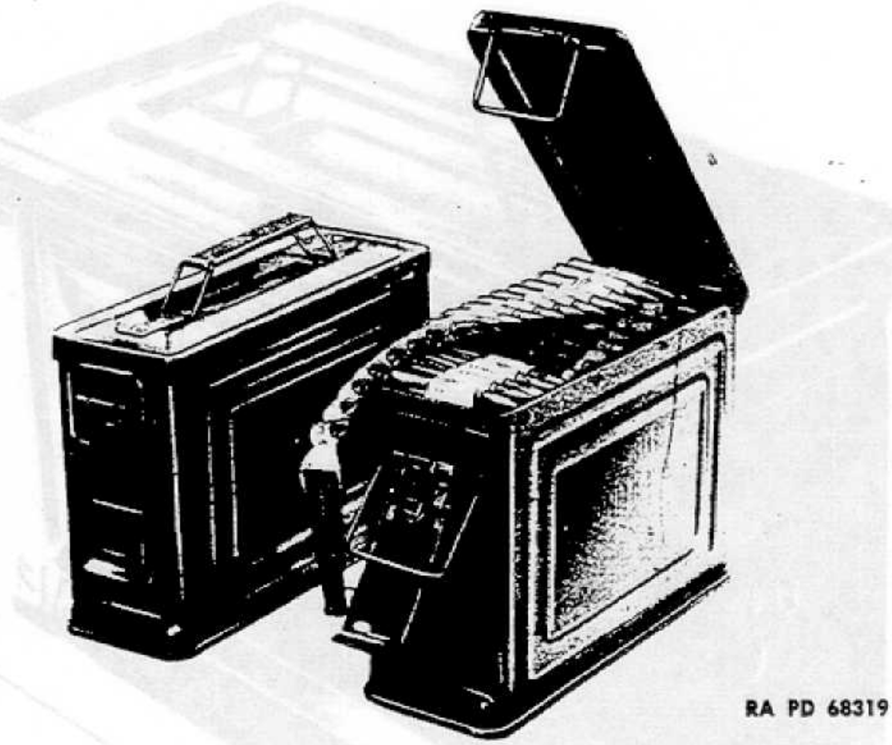


Figure 131—BOX, Ammunition, Cal. .30, M1 (for 250-rd. Machine Gun Belt)

137. BOX, AMMUNITION, CAL. .30, M1 (FOR 250-RD. MACHINE GUN BELT).

Weight, empty	3.5 lb
Length	10 3/16 in.
Width	3 3/4 in.
Height	7 7/32 in.

NOTE: Used for packing loaded BELT, ammunition, cal. .30, M1917 (250-rd.).

References

SNL T-5
Drawing No. D44070
Specification No. AXS-738
TM 9-1990

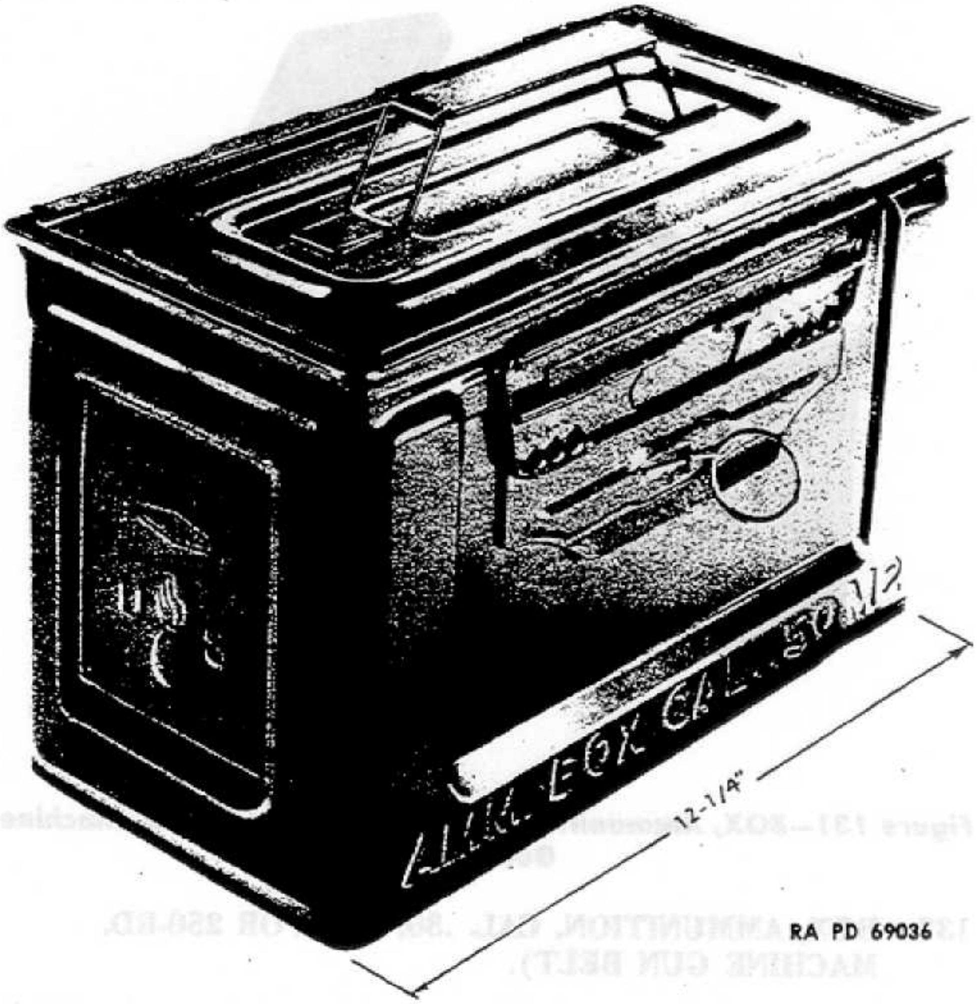


Figure 132—BOX, Ammunition, Cal. .50, M2 (for 110-rd. Machine Gun Belt)

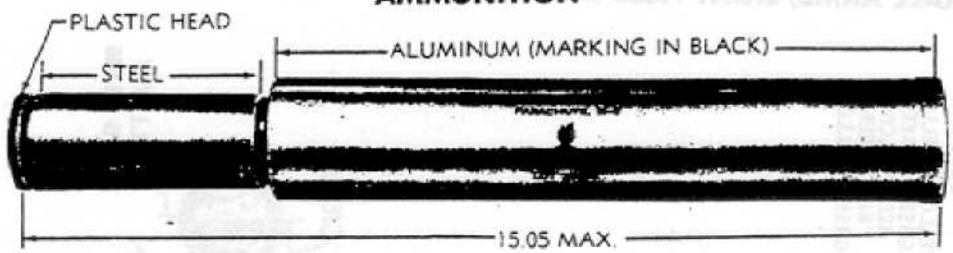
138. BOX, AMMUNITION, CAL. .50, M2 (FOR 110-RD. MACHINE GUN BELT).

Weight, empty	4.4 lb
Length	12¼ in.
Width	6¼ in.
Height	7½ in.

NOTE: Used for packing loaded BELT, ammunition, fabric, cal. .50, M7 (110-rd.), or 100 or 105 rounds of linked cal. .50 ammunition.

References

SNL T-5
Drawing No. D73913
Specification No. AXS-738
TM 9-1990



RA PD 64447

Figure 133—FLARE, Aircraft, Parachute, M9A1

139. FLARE, AIRCRAFT, PARACHUTE, M9A1.

a. Weight:

	Ounces
Complete round	33.7
Flare case	5.84
Candle assembly	21.0
Illuminating composition	17.8
Parachute assembly	1.5
Barrel assembly	3.9
Propelling charge	0.04
Primer	0.03

b. Length:

	Inches
Complete round	15.1
Flare case assembly	12.51
Illuminant assembly	4.5
Barrel assembly	4.3

c. Diameter:

	Inches
Flare case assembly	2.0
Barrel assembly	1.55

d. Miscellaneous:

Candlepower	60,000
Burning time	60.0 sec
Delay time	2.5 sec
Rate of fall	7.0 ft per sec

References

SNL S-5
Drawing No. 78-0-11 (C/R)
Specification No. 50-55-2
TM 9-290
TM 9-981
TM 9-1900

IDENTIFICATION TOP FOR:	COLOR
A — SIGNAL AIRCRAFT, PARACHUTE, RED STAR, M11	RED
B — SIGNAL, AIRCRAFT, SINGLE STAR, AN-M34	RED
C — SIGNAL, AIRCRAFT, SINGLE STAR, AN-M35	YELLOW
D — SIGNAL, AIRCRAFT, SINGLE STAR, AN-M36	GREEN
E — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M28	RED-RED

IDENTIFICATION TOP FOR:	COLOR
F — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M29	YELLOW-YELLOW
G — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M30	GREEN-GREEN
H — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M31	RED-YELLOW
I — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M32	RED-GREEN
J — SIGNAL, AIRCRAFT, DOUBLE STAR, AN-M33	GREEN-YELLOW
X — ALUMINUM (MARKING IN BLACK)	

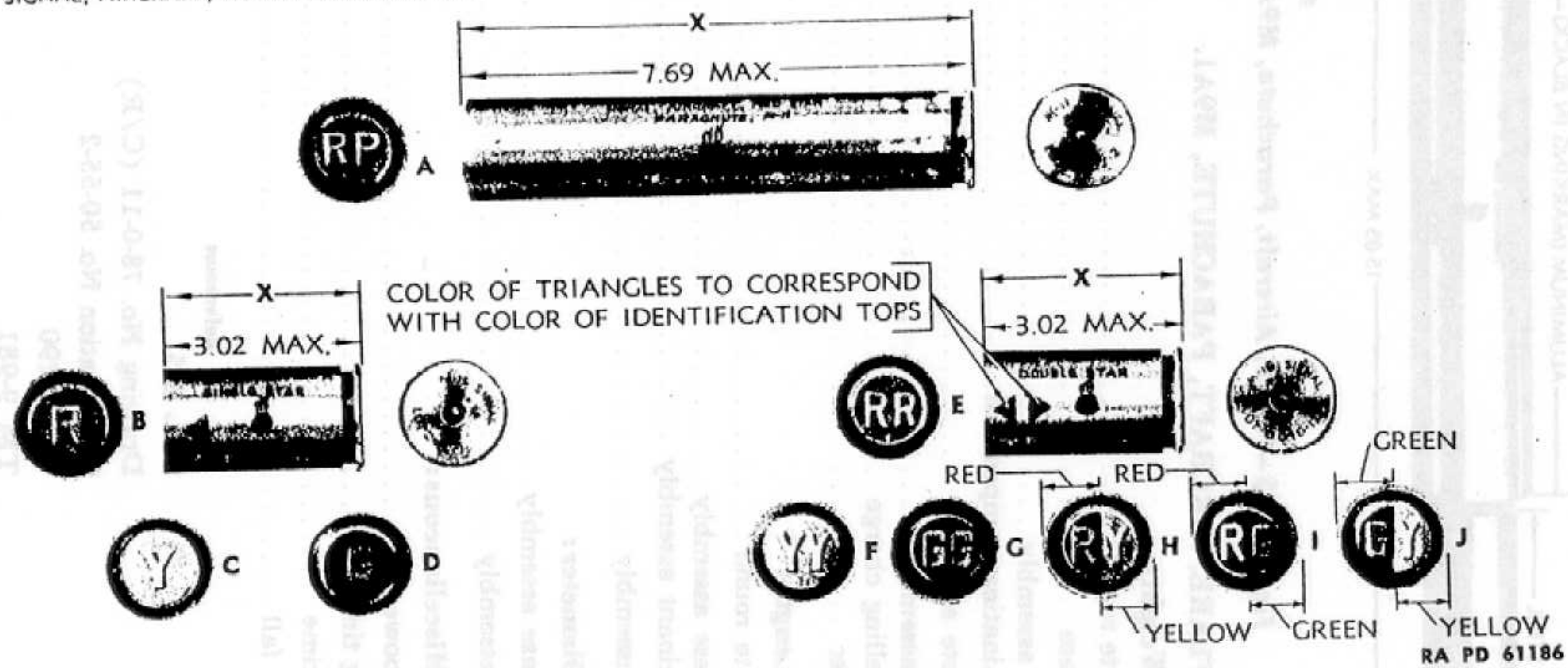
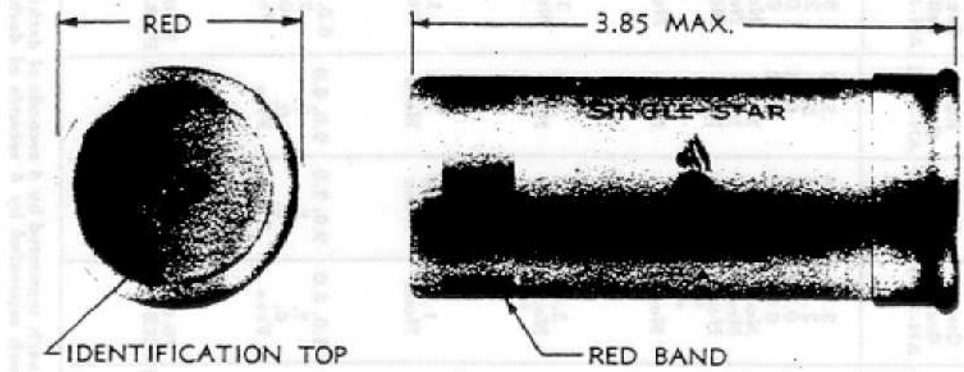


Figure 134—Signals, Aircraft, Rimless-type

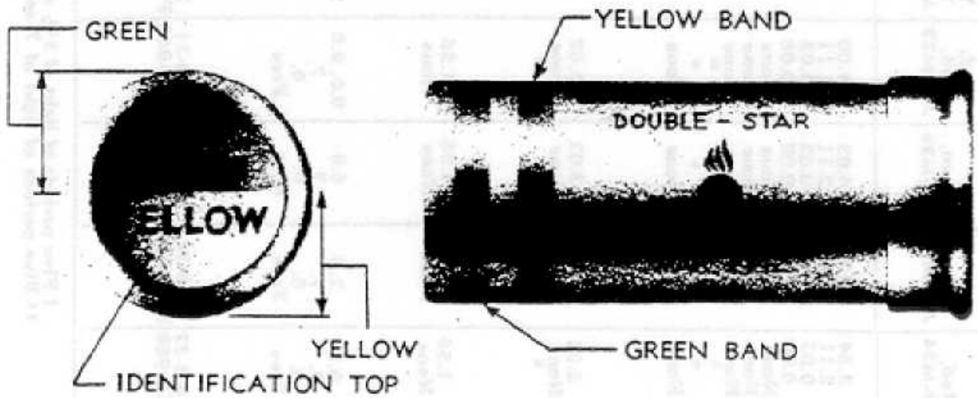
140. SIGNALS, AIRCRAFT, RIMLESS-TYPE.

	Red, Parachute, M11	Red, Cluster, M14	White, Blinker, Parachute, M15	Green, Blinker, Parachute, M16	Red, AN-M34	Yellow, AN-M35	Green, AN-M36	Red, Red, AN-M28	Yellow, Yellow, AN-M29	Green, Green, AN-M30	Red, Yellow, AN-M31	Red, Green, AN-M32	Green, Yellow, AN-M33
a. Weight (ounces)													
Complete assembly	9.60	11.42	9.1	9.1	3.84	3.78	4.03	5.00	4.88	5.38	4.94	5.19	5.13
Barrel	3.53	3.53	3.53	3.53	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11
Primer	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Propelling charge	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Signal case assembly	5.8	7.62	5.3	5.3	None	None	None	None	None	None	None	None	None
Fuze assembly	0.12	0.12	0.12	0.12	None	None	None	None	None	None	None	None	None
Expelling charge	0.07	0.07	0.07	0.07	None	None	None	None	None	None	None	None	None
Candle assembly	3.29	6.11	3.2	3.2	*	*	*	*	*	*	*	*	*
Illuminating charge	2.60	5.0†	0.52	0.52	*	*	*	*	*	*	*	*	*
Parachute assembly	0.26	None	0.26	0.26	None	None	None	None	None	None	None	None	None
b. Length (inches)													
Complete round	7.69	7.69	7.69	7.69	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02
Signal case assembly	6.71	6.85	6.71	6.85	None	None	None	None	None	None	None	None	None
Candle assembly	3.01	5.6†	3.01	3.01	*	*	*	*	*	*	*	*	*
c. Diameter (inches)													
Barrel	1.58	1.58	1.58	1.58	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
Parachute (open)	30.5	None	30.5	30.5	None	None	None	None	None	None	None	None	None
d. Miscellaneous													
Candlepower (thousands)	20.	4.0ϕ	10.0	1.5	9.0	2.0	6.0	9.0, 9.0	2.0, 2.0	6.0, 6.0	9.0, 2.0	9.0, 6.0	6.0, 2.0
Burning time (seconds)	30.	9.	44.0‡	51.††	7.	7.	7.	7.	7.	7.	7.	7.	7.
Delay time (seconds)	2.5	2.5	2.5	2.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
Rate of fall (ft per sec)	6.	Free	6.	6.	Free	Free	Free	Free	Free	Free	Free	Free	Free
e. References													
Drawing No. (C/R)	78-0-10	78-0-14	78-0-15	78-0-16	78-0-32	78-0-32	78-0-32	78-0-31	78-0-31	78-0-31	78-0-31	78-0-31	78-0-31
Specification No.	50-55-4	PXS-722	50-55-11	50-55-11	PXS-968	PXS-968	PXS-968	PXS-963	PXS-963	PXS-963	PXS-963	PXS-963	PXS-963
SNL S-5 TM 9-981 TM 9-290 TM 9-1900													

* Data not available at time of publication.
ϕ For each candle.
† Total for five stars.
‡ Five periods of light of 5½ seconds each separated by 4 seconds of darkness.
†† Five periods of light of 7 seconds each separated by 4 seconds of darkness.



SIGNAL, AIRCRAFT, SINGLE-STAR, AN-M43



SIGNAL, AIRCRAFT, DOUBLE-STAR, AN-M42

NOTE:—COLOR OF BANDS AND IDENTIFICATION TOPS TO CORRESPOND WITH COLOR OF SIGNAL (SEE TABLE)

SIGNAL	COLOR OF BANDS AND IDENTIFICATION TOPS
AIRCRAFT, DOUBLE - STAR, AN-M37	RED - RED
AIRCRAFT, DOUBLE - STAR, AN-M38	YELLOW - YELLOW
AIRCRAFT, DOUBLE - STAR, AN-M39	GREEN - GREEN
AIRCRAFT, DOUBLE - STAR, AN-M40	RED - YELLOW
AIRCRAFT, DOUBLE - STAR, AN-M41	RED - GREEN
AIRCRAFT, SINGLE - STAR, AN-M44	YELLOW
AIRCRAFT, SINGLE - STAR, AN-M45	GREEN

RA PD 7210

Figure 135—Signals, Aircraft, Cartridge-type

141. SIGNALS, AIRCRAFT, CARTRIDGE-TYPE.

	Red-red, AN-M37	Yellow-yellow, AN-M38	Green-green, AN-M39	Red-yellow, AN-M40	Red-green, AN-M41	Green-yellow, AN-M42	Red, AN-M43	Yellow, AN-M44	Green, AN-M45
a. Weight (ounces)									
Complete assembly	5.6	5.6	6.8	5.6	6.2	6.2	4.3	4.17	5.14
Signal case assembly	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Primer	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Propelling charge	0.03	0.03	0.03	0.03	0.03	0.03	0.08	0.08	0.08
Candle assembly	3.84	3.84	5.02	3.84	4.43	4.43	2.23	2.10	3.08
Illuminating charge	3.32	3.32	4.50	3.32	3.91	3.91	2.0	1.87	2.85
b. Length (inches)									
Cartridge	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
Candle assembly	2.95	2.95	2.95	2.95	2.95	2.95	1.56	1.56	1.56
c. Diameter (inches)									
Cartridge	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
d. Miscellaneous									
Candlepower (thousands)	25.0, 25.0	20.0, 20.0	12.0, 12.0	25.0, 20.0	25.0, 12.0	12.0, 20.0	25.0	15.0	30.0
Burning time (seconds)	7. to 13.	7. to 13.	7. to 13.	7. to 13.	7. to 13.	7. to 13.	7. to 13.	7. to 13.	7. to 13.
Delay time (seconds)	0.	0.	0.	0.	0.	0.	0.	0.	0.
Rate of fall (ft per sec)	free	free	free	free	free	free	free	free	free
e. References									
Drawing No. (C/R)	78-0-33	78-0-33	78-0-33	78-0-33	78-0-33	78-0-33	78-0-34	78-0-34	78-0-34
Specification No.	PXS-972	PXS-972	PXS-972	PXS-972	PXS-972	PXS-972	PXS-973	PXS-973	PXS-973
SNL S-5 TM 9-290 TM 9-981 TM 9-1900									

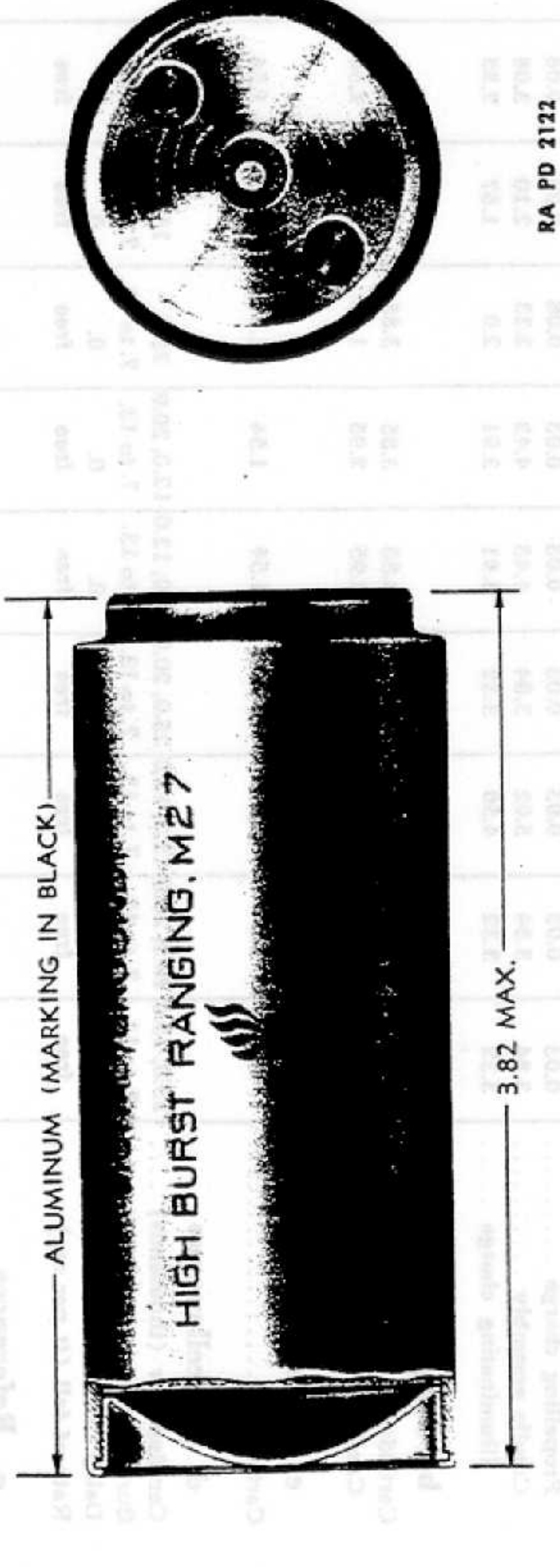


Figure 136—SIGNAL, Ground, High-burst Ranging, M27

142. SIGNAL, GROUND, HIGH-BURST RANGING, M27.

a. Weight:	Ounces
Complete round	6.78
Body	2.70
Breech cap	0.68
Smoke charge	2.20*
Time train ring assembly	0.60
Propelling charge	0.07
Primer	0.04

b. Length:	Inches
Complete round	3.82
Body	3.66
Breech cap	0.76
Smoke charge cavity	2.61

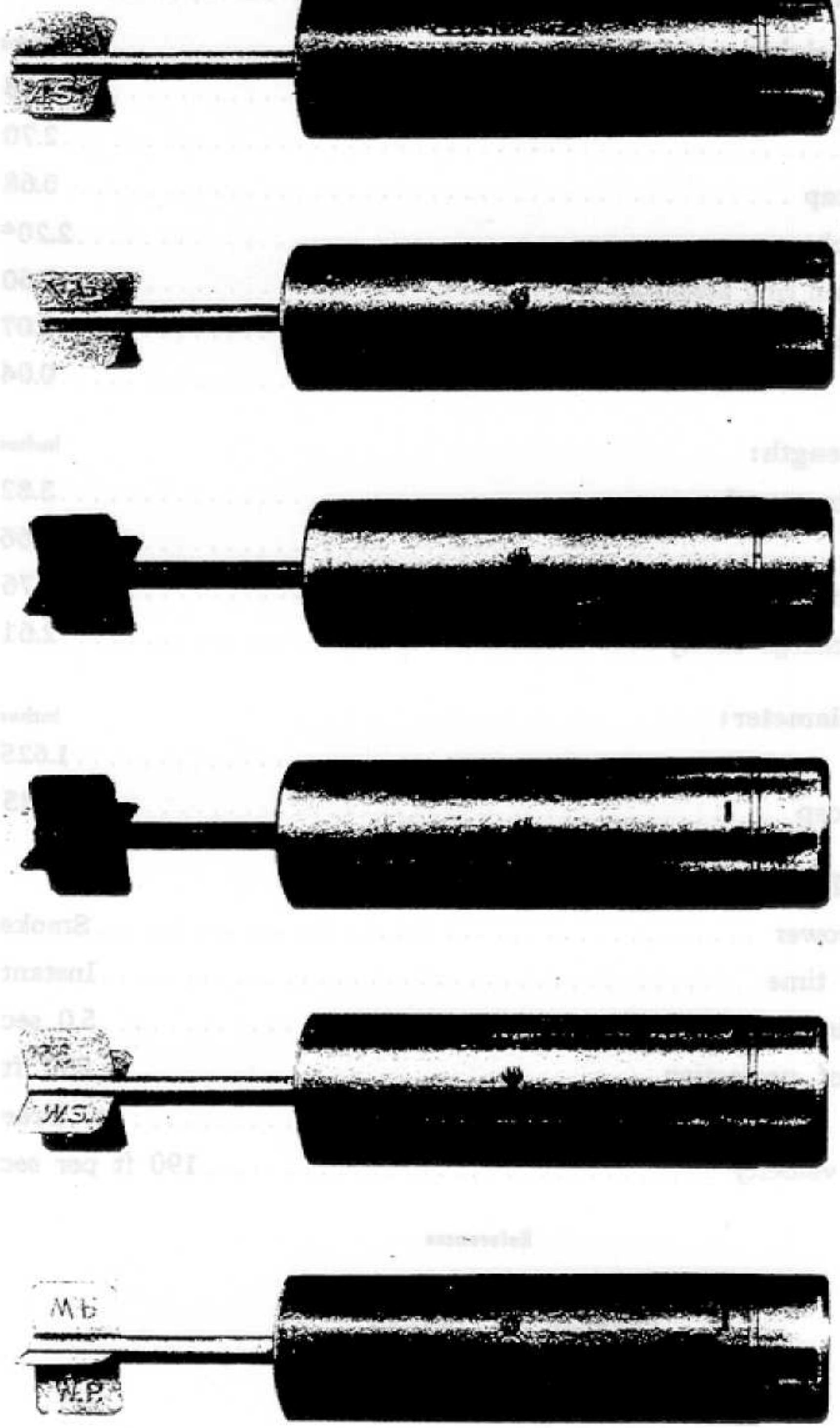
c. Diameter:	Inches
Body	1.625
Breech cap	1.35

d. Miscellaneous:	
Candlepower	Smoke
Burning time	Instant
Delay time	5.0 sec
Height of projection	550 ft
Rate of fall	Free
Muzzle velocity	190 ft per sec

References

SNL S-5
Drawing No. 78-0-30 (complete round)
Specification No. PXS-958
TM 9-290
TM 9-981
TM 9-1900

* 2 oz. black powder and 0.2 oz aluminum.



RA PD 69037

Figure 137—Signals, Ground, Projector-type

143. SIGNALS, GROUND, PROJECTOR-TYPE.

	Parachute			Cluster		
	White Star, M17	Green Star, M19	Amber Star, M21	White Star, M18	Green Star, M20	Amber Star, M22
a. Weight (ounces)						
Complete round	10.9	10.6	10.2	11.8	11.8	11.3
Body assembly	4.6	4.6	4.6	4.4	4.4	4.4
Illuminant assembly	3.9	3.6	3.2	5.3	5.3	4.8
Illuminating composition	2.55	2.5	2.1	4.0*	4.0*	3.5*
Parachute assembly	0.39	0.39	0.39	None	None	None
Powder pellet	0.04	0.04	0.04	0.04	0.04	0.04
Cap assembly	0.96	0.96	0.96	0.96	0.96	0.96
Primer	0.04	0.04	0.04	0.04	0.04	0.04
Propelling charge	0.07	0.07	0.07	0.07	0.07	0.07
Stabilizer assembly	0.85	0.85	0.85	0.87	0.87	0.87
b. Length (inches)						
Complete round	9.	9.	9.	9.	9.	9.
Body and cap assembly	6.	6.	6.	5.7	5.7	5.7
Illuminant assembly	2.25	2.25	2.25	3.6	3.6	3.6
Stabilizer assembly	3.	3.	3.	3.25	3.25	3.25
c. Diameter (inches)						
Body	1.61	1.61	1.61	1.61	1.61	1.61
Parachute (open)	24.	24.	24.	None	None	None
d. Miscellaneous						
Candlepower	20,000	5,000	4,000	18,000*	7,000*	2,000*
Burning time (seconds)	20 to 30	20 to 30	20 to 30	5 to 7	5 to 7	5 to 7
Delay time (seconds)	5½	5½	5½	5½	5½	5½
Height of projection (feet)	600	600	600	600	600	600
Rate of fall (f/s)	7.	7.	7.	free	free	free
Muzzle velocity (f/s)	195	195	195	195	195	195
e. References						
Drawing No. (C/R)	78-0-17	78-0-19	78-0-21	78-0-18	78-0-20	78-0-22
Specification	50-54-5	50-54-5	50-54-5	50-54-6	50-54-6	50-54-0
SNL S-5 TM 9-290 TM 9-981 TM 9-1900						

* For each of 5 candles.



Figure 138—Signals, Ground, Launcher-type

144. SIGNALS, GROUND, LAUNCHER-TYPE.

	Parachute				Cluster			
	White Star, M17A1†	Green Star, M19A1†	Amber Star, M21A1†	Red Star, M51A1†	White Star, M18A1†	Green Star, M20A1†	Amber Star, M22A1†	Red Star, M52A1†
a. Weight (ounces)								
Complete round	16.71	16.36	15.98	16.36	17.49	17.49	16.96	17.49
Body assembly	4.6	4.6	4.6	4.6	4.4	4.4	4.4	4.4
Illuminant assembly	3.9	3.6	3.2	3.6	5.3	5.3	3.8	5.3
Illuminating composition	2.55	2.5	2.1	2.0	0.8*	0.08*	0.7*	0.75*
Parachute assembly	0.39	0.39	0.39	0.39	None	None	None	None
Powder pellet	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Propelling charge	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.05
Stabilizer assembly	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
b. Length (inches)								
Complete round (With plug which protrudes ¼ in.)	10.4	10.4	10.4	10.4	10.1	10.1	10.1	10.1
Body assembly	6.5	6.5	6.5	6.5	6.25	6.25	6.25	6.5
Illuminant assembly	2.25	2.25	2.25	2.25	3.6	3.6	3.6	3.6
Stabilizer assembly	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
c. Diameter (inches)								
Body	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Parachute (open)	24.	24.	24.	24.	None	None	None	None
d. Miscellaneous								
Candlepower (minimum)	20,000	5,000	4,000	20,000	18,000*	7,000*	2,000*	35,000*
Burning time (seconds)	20 to 30	20 to 30	20 to 30	20 to 30	5 to 7*	5 to 7*	5 to 7	5 to 7
Delay time (seconds)	5½	5½	5½	5½	5½	5½	5½	5½
Height of projection (feet)	600.	600.	600.	600.	600.	600.	600.	600.
Rate of fall (ft per sec)	7.	7.	7.	7.	Free	Free	Free	Free
Muzzle velocity (ft per sec)	195.	195.	195.	195.	195.	195.	195.	195.
e. References								
Drawing No. (C/R)	78-0-37	78-0-39	78-0-41	78-0-69	78-0-38	78-0-40	78-0-42	78-0-70
Specification	PXS-1031	PXS-1031	PXS-1031	PXS-1031	PXS-1032	PXS-1032	PXS-1032	PXS-1031

SNL S-5 TM 9-981
TM 9-290 TM 9-1900

* For each of 5 candles.
† When the model designation is suffixed by "B2," the signal has a body of steel instead of aluminum, and the length of complete round is 0.17 inch less than that shown in table above.

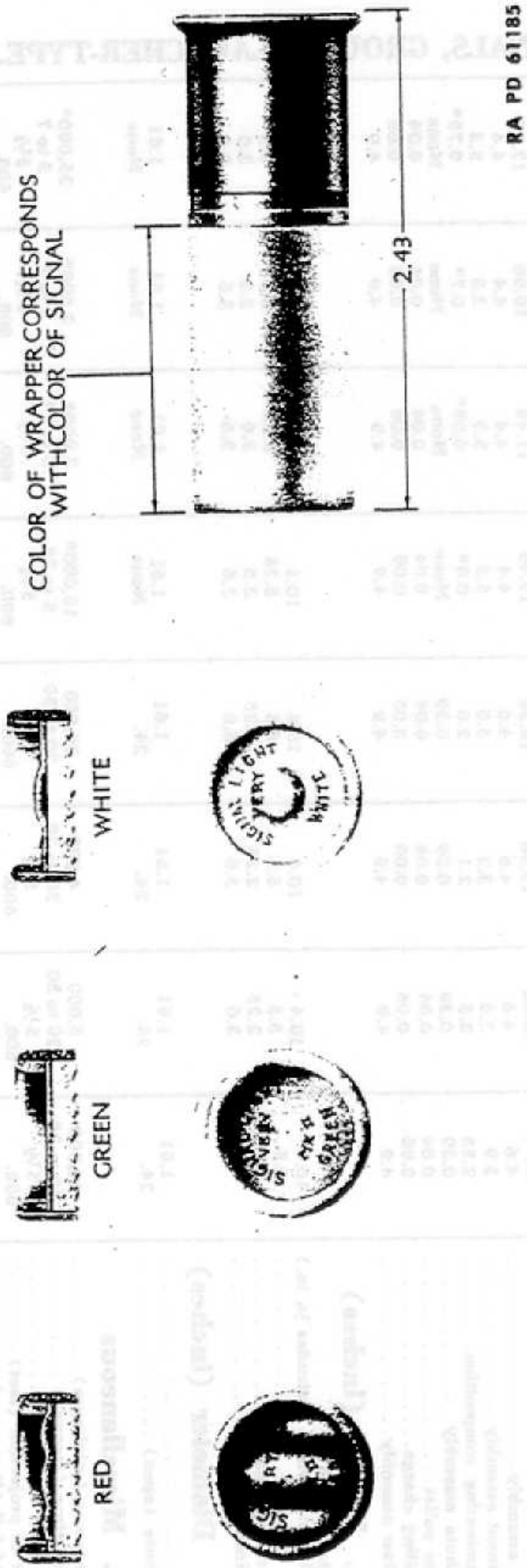


Figure 139—Lights, Signal, Very

145. LIGHTS, SIGNAL, VERY.

	Green star, Mk. II	Red star, Mk. II	White star, Mk. II
a. Weight (grains)			
Complete round	420.	420.	420.
Star charge assembly	224.	220.	220.
Star charge	200.	154.	154.
Propelling charge	10.	10.	10.
b. Length (inches)			
Complete round	2.43	2.43	2.43
Star charge assembly	1.5	1.5	1.5
Bottom wad	0.38	0.38	0.38
Top wad	0.12	0.12	0.12
c. Diameter (inches)			
Cartridge case*	0.875	0.875	0.875
Bottom and top wads	0.78	0.78	0.78
Star charge	0.69	0.69	0.69
d. Miscellaneous			
Candlepower	600.	300.	250.
Burning time (seconds)	5.	7.	6.
Delay time (seconds)	0.**	0.**	0.**
Height of projection (feet)	200.	200.	200.
e References			
Drawing No. (C/R)	78-0-28	78-0-26	78-0-27
Specification No.	PXS-637	PXS-637	PXS-637

References

SNL S-5
TM 9-290
TM 9-981
TM 9-1900

*Empty primed shot shell, No. 10 gage, commercial.
**No delay; burns on rise.

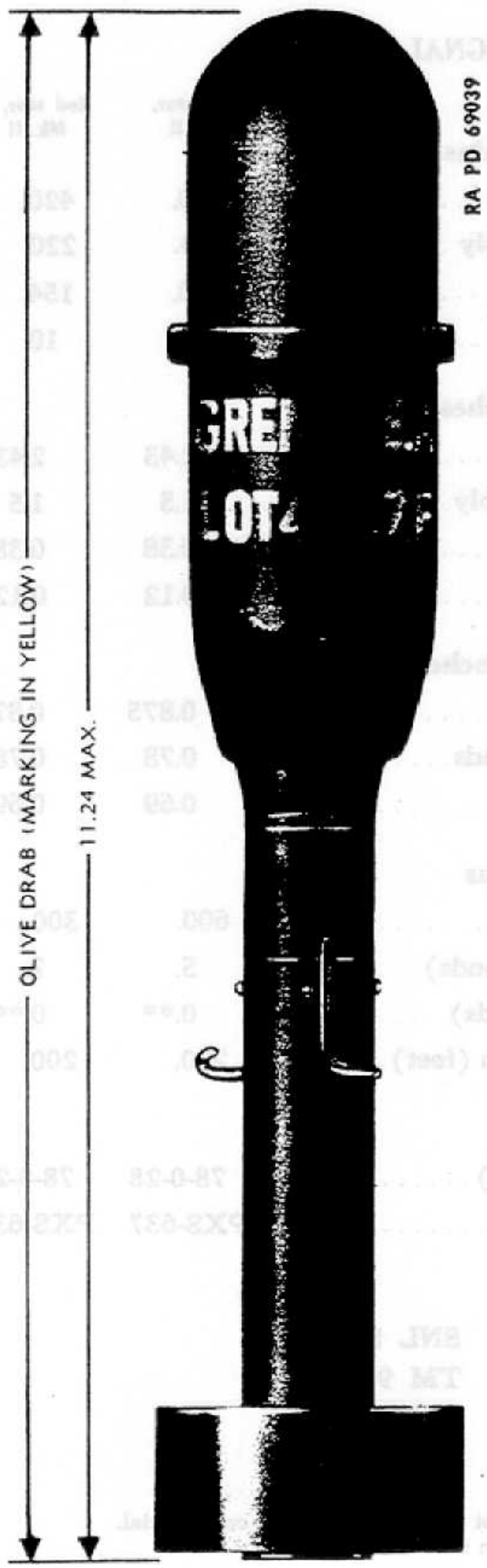


Figure 140—GRENADE, AT, M9A1

146. GRENADE, AT, M9A1.

a. Weight:

	Ounces
Complete round	19.68
Body, ogive, and cone assembly	12.16
Bursting charge	4.0
Stabilizer	7.52
Fuze assembly	0.16

b. Length:

	Inches
Complete round	11.24
Body, ogive, and cone assembly	5.98
Stabilizer assembly	5.26

c. Diameter:

	Inches
Body	(Max.) 2.15
Stabilizer:	
Outer	0.90
Inner	0.85

d. Miscellaneous:

Type of fuze	Impact
Radius of burst (yards)	—
Maximum range:	
CARBINE, cal. .30, M1, M1A1	184 yd
RIFLE, U. S., cal. .30, M1903 and M1	257 yd
Maximum initial velocity:	
CARBINE, cal. .30, M1, M1A1	142.6 ft per sec
RIFLE, U. S., cal. .30, M1903 and M1	176.5 ft per sec

References

Drawing No. 82-0-67 (complete round)
SNL S-4
TM 9-1900
FM 23-30



RA PD 69040

Figure 141—GRENADE, Rifle, Fragmentation, Impact, M17 (T2)

147. GRENADE, RIFLE, FRAGMENTATION, IMPACT, M17 (T2).

a. Weight:	Ounces
Complete round	25.28*
Body, ogive, and cone assembly	17.76*
Bursting charge	0.8*
Stabilizer	7.52*
Fuze assembly	0.16*

b. Length:	Inches
Complete round	8.82*
Body, ogive, and cone assembly	3.56*
Stabilizer assembly	5.26

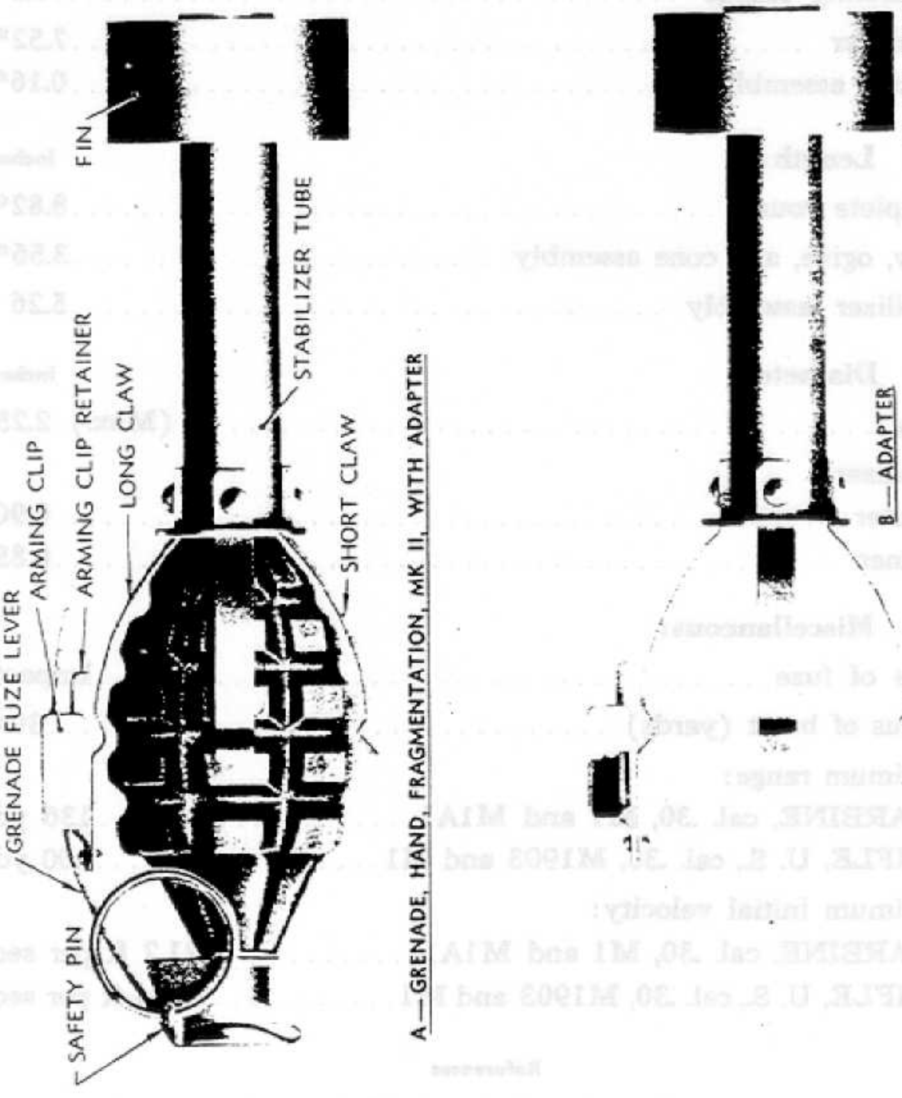
c. Diameter:	Inches
Body	(Max.) 2.25
Stabilizer:	
Outer	0.90
Inner	0.85

d. Miscellaneous:	
Type of fuze	Impact
Radius of burst (yards)	30ϕ
Maximum range:	
CARBINE, cal. .30, M1 and M1A1	136 yd
RIFLE, U. S., cal. .30, M1903 and M1	200 yd
Maximum initial velocity:	
CARBINE, cal. .30, M1 and M1A1	121.2 ft per sec
RIFLE, U. S., cal. .30, M1903 and M1	146.4 ft per sec

References

Drawing No. 82-0-95 (complete round)
Specification No. AXS-1034
SNL S-4
TM 9-1900
FM 23-30

* Estimated.
ϕ Fragments may fly over 200 yards.



RA PD 69041

Figure 142—ADAPTER, Grenade-projection, M1

148. ADAPTER, GRENADE-PROJECTION, M1.

a. Weight:

	Pounds
Adapter:	
Without grenade*	.365
With grenade	1.68

b. Length:

	Inches
Stabilizer tube	5.26

c. Diameter:

	Inches
Stabilizer tube:	
Outer	0.90
Inner	0.85

d. Miscellaneous:

Fuze delay	5 sec
Radius of burst	30 yds**
Maximum range	200 yds†
Muzzle velocity	195 ft per sec‡

References

SNL S-4
Drawing No. 82-1-81
Specification No. AXS-927
TM 9-1900
TM 9-1985
FM 23-30

* GRENADE, hand, fragmentation, Mk. II, with hand igniting fuze, M10A1, or M10A2.

** Fragments may fly over 200 yards.

† When projected from launchers on M1903 or M1917 Rifles: Limited by delay time of fuze.

‡ Estimated.

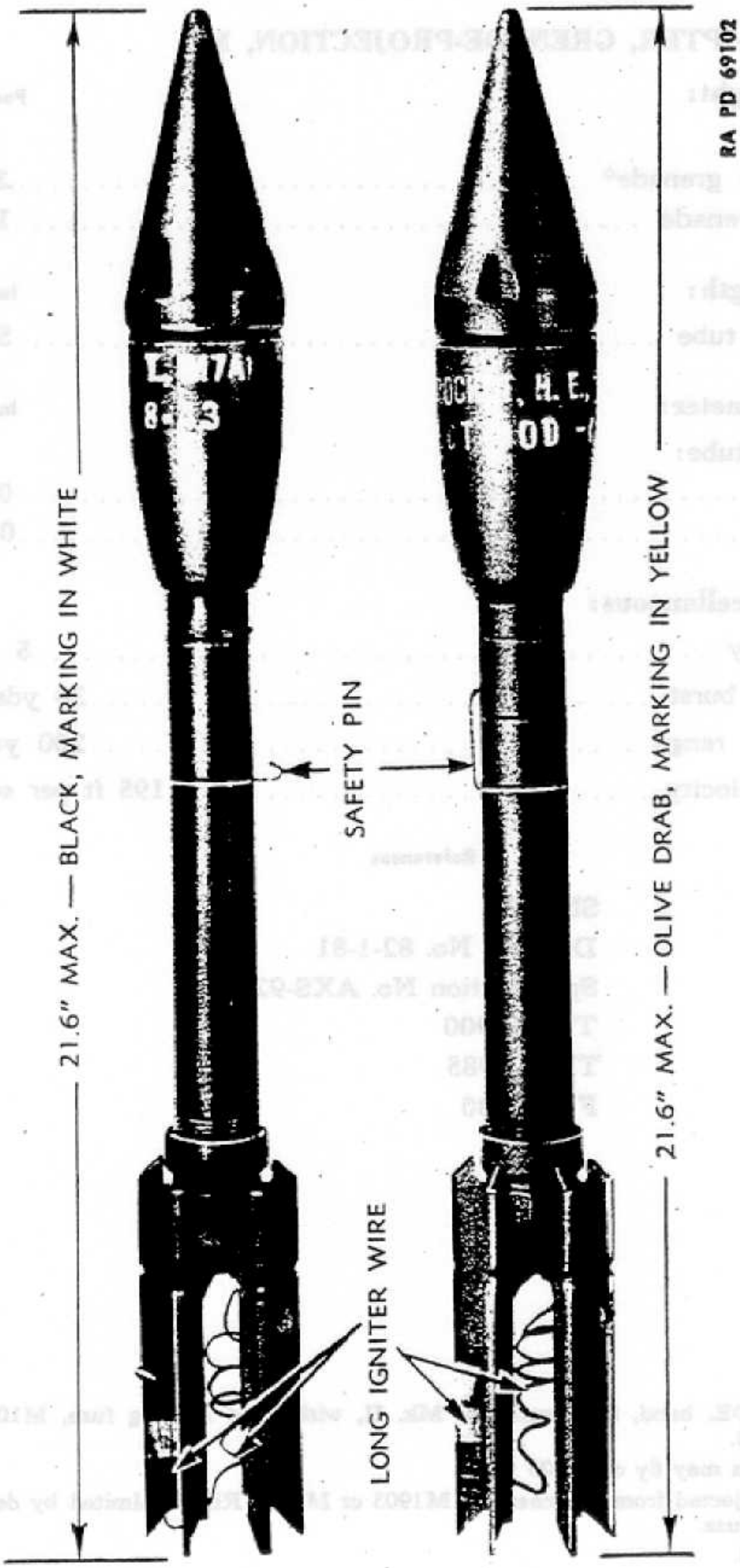


Figure 143—ROCKET, AT, 2.36", M6A1 (Lower) and ROCKET, Practice, 2.36", M7A1

149. ROCKET, AT, 2.36", M6A1 AND ROCKET, AT, PRACTICE, 2.36", M7A1.

	Rocket, AT, M6A1	Rocket, AT, Practice, M7A1
a. **Weight:**		Pounds
Complete round	3.39	3.39
Body, ogive, and cone assembly	1.09	1.09
Bursting charge	.483	
Stabilizer and fuze assembly	1.82	2.49
Propelling charge	.135	
Fin assembly with nozzle	.47	.47
b. **Length:**		Inches
Complete round	(Max.) 21.62	(Max.) 21.62
Body, ogive, and cone assembly	8.80	8.80
Squib, ignition (electric) (long wire)	23.75	23.75
Stabilizer and fuze assembly	11.421	11.421
Stabilizer tube (exposed portion after assembly)	(Approx.) 6	(Approx.) 6
Fin	5.421	5.421
c. **Diameter:**		Inches
Body, ogive, and cone assembly	2.245	2.245
Fin (maximum diameter)	(Approx.) 2.313	(Approx.) 2.313
d. **Miscellaneous:**		
Muzzle velocity	265 ft per sec	265 ft per sec
Maximum range	700 yds	700 yds
Propelling charge burning time	(Approx.) .03 sec	(Approx.) .03 sec
Type of fuze	Direct action, nondelay	None

References

SNL S-9
Drawing No. 82-6-3 (C/R)
Specification No. AXS-788
TM 9-294
TM 9-1900

Section VII

DATA

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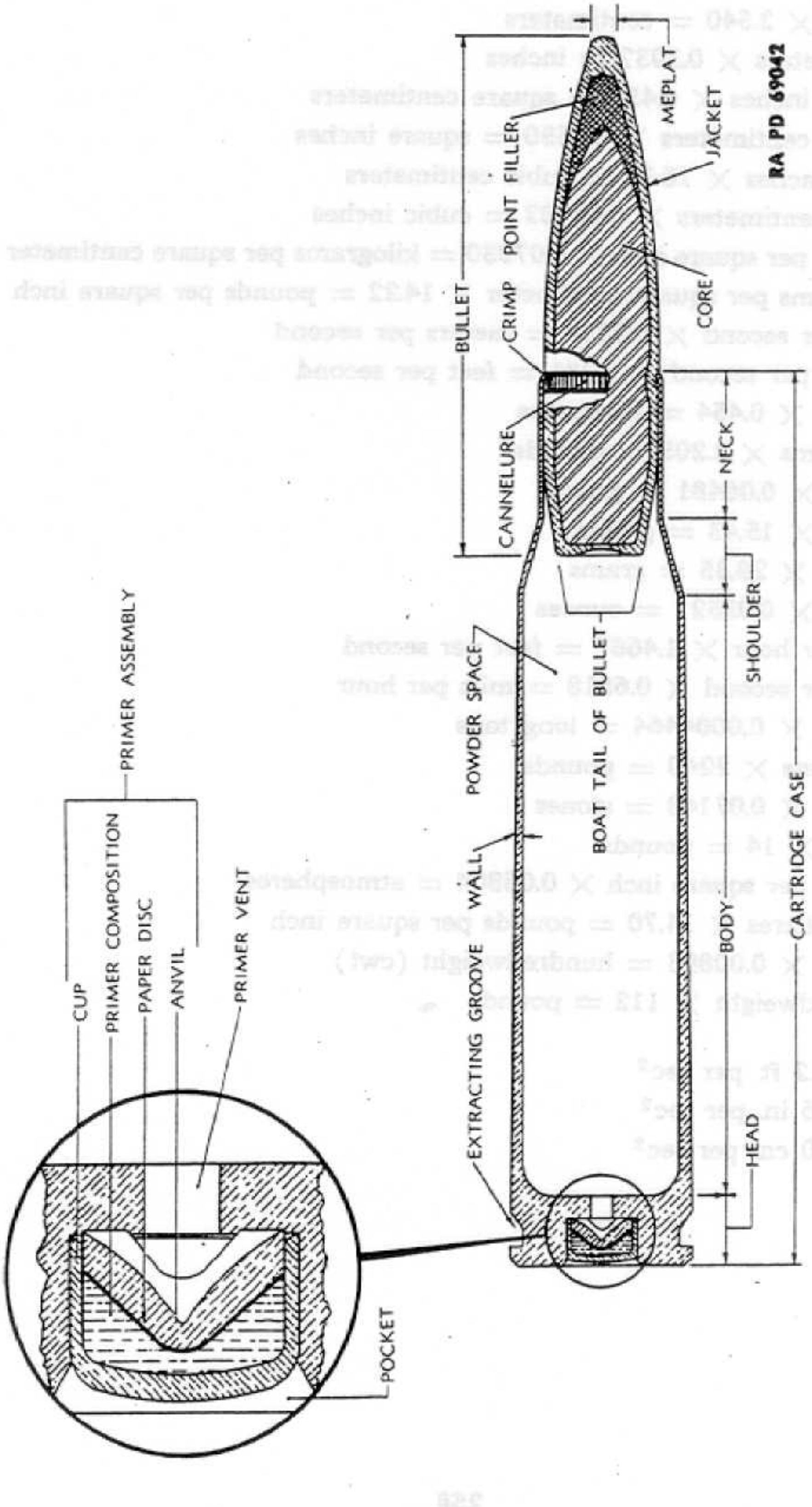


Figure 144—Cartridge Terminology

150. CONVERSION FACTORS.

Inches × 2.540 = centimeters
Centimeters × 0.3937 = inches
Square inches × 6.452 = square centimeters
Square centimeters × 0.1550 = square inches
Cubic inches × 16.39 = cubic centimeters
Cubic centimeters × 0.06102 = cubic inches
Pounds per square inch × 0.07030 = kilograms per square centimeter
Kilograms per square centimeter × 14.22 = pounds per square inch
Feet per second × 0.3048 = meters per second
Meters per second × 3.281 = feet per second
Pounds × 0.454 = kilograms
Kilograms × 2.205 = pounds
Grains × 0.06481 = grams
Grams × 15.43 = grains
Ounces × 28.35 = grams
Grams × 0.03527 = ounces
Mils per hour × 1.4667 = feet per second
Feet per second × 0.6818 = mils per hour
Pounds × 0.0004464 = long tons
Long tons × 2240 = pounds
Pounds × 0.07143 = stones
Stones × 14 = pounds
Pounds per square inch × 0.06804 = atmospheres
Atmospheres × 14.70 = pounds per square inch
Pounds × 0.00893 = hundredweight (cwt)
Hundredweight × 112 = pounds

$g = 32.2$ ft per sec^2
$g = 386$ in. per sec^2
$g = 980$ cm per sec^2

151. NATURAL SINES AND COSINES OF LARGE ANGLES IN MILS.

Angle	Sine	Difference per mil	Cosine	Difference per mil
0	0.0000	9.8	1.0000	0.1
25	0.0245	9.8	0.9997	0.4
50	0.0491	9.8	0.9988	0.6
75	0.0736	9.8	0.9973	0.8
100	0.0980	9.8	0.9952	1.1
125	0.1224	9.7	0.9925	1.3
150	0.1467	9.7	0.9892	1.6
175	0.1710	9.6	0.9853	1.8
200	0.1951	9.6	0.9808	2.0
225	0.2191	9.6	0.9757	2.3
250	0.2430	9.5	0.9700	2.5
275	0.2667	9.5	0.9638	2.8
300	0.2903	9.4	0.9569	3.0
325	0.3137	9.3	0.9495	3.2
350	0.3369	9.2	0.9415	3.4
375	0.3599	9.1	0.9330	3.6
400	0.3827	9.0	0.9239	3.9
425	0.4052	9.0	0.9142	4.1
450	0.4276	8.8	0.9040	4.3
475	0.4498	8.7	0.8932	4.5
500	0.4714	8.6	0.8819	4.7
525	0.4929	8.5	0.8701	5.0
550	0.5141	8.4	0.8577	5.1
575	0.5350	8.3	0.8449	5.4
600	0.5556	8.3	0.8315	5.6
625	0.5758	8.0	0.8176	5.8
650	0.5957	7.8	0.8032	5.9
675	0.6152	7.7	0.7884	6.2
700	0.6344	7.5	0.7730	6.3
725	0.6532	7.4	0.7572	6.5
750	0.6716	7.2	0.7410	6.7
775	0.6895	7.1	0.7242	6.8
800	0.7071	6.9	0.7071	6.9

Angle	Sine	Difference per mil	Cosine	Difference per mil
800	0.7071	6.9	0.7071	6.9
825	0.7242	6.8	0.6895	7.1
850	0.7410	6.7	0.6716	7.2
875	0.7572	6.5	0.6532	7.4
900	0.7730	6.3	0.6344	7.5
925	0.7884	6.2	0.6152	7.7
950	0.8032	5.9	0.5957	7.8
975	0.8176	5.8	0.5758	8.0
1000	0.8315	5.6	0.5556	8.3
1025	0.8449	5.4	0.5350	8.3
1050	0.8577	5.1	0.5141	8.4
1075	0.8701	5.0	0.4929	8.5
1100	0.8819	4.7	0.4714	8.6
1125	0.8932	4.5	0.4498	8.7
1150	0.9040	4.3	0.4276	8.8
1175	0.9142	4.1	0.4052	9.0
1200	0.9239	3.9	0.3827	9.0
1225	0.9330	3.6	0.3599	9.1
1250	0.9415	3.4	0.3369	9.2
1275	0.9495	3.2	0.3137	9.3
1300	0.9569	3.0	0.2903	9.4
1325	0.9638	2.8	0.2667	9.5
1350	0.9700	2.5	0.2430	9.5
1375	0.9757	2.3	0.2191	9.6
1400	0.9808	2.0	0.1951	9.6
1425	0.9853	1.8	0.1710	9.6
1450	0.9892	1.6	0.1467	9.7
1475	0.9925	1.3	0.1224	9.7
1500	0.9952	1.1	0.0980	9.8
1525	0.9973	0.8	0.0736	9.8
1550	0.9988	0.6	0.0491	9.8
1575	0.9997	0.4	0.0245	9.8
1600	1.0000	0.1	0.0000	9.8

152. NATURAL SINES AND COSINES OF SMALL ANGLES IN MILS.

Angle	Sine	Cosine
0	0.0000	1.0000
5	0.0049	1.0000
10	0.0098	1.0000
15	0.0147	0.9999
20	0.0196	0.9998
25	0.0245	0.9997
30	0.0294	0.9996
35	0.0344	0.9994
40	0.0393	0.9992
45	0.0442	0.9990
50	0.0491	0.9988

153. TABLE OF SQUARES.

Number	Square	Difference (Add 00)	Number	Square	Difference (Add 00)
1000	1 000 000	1025	2600	6 760 000	2625
1050	1 102 500	1075	2650	7 022 500	2675
1100	1 210 000	1125	2700	7 290 000	2725
1150	1 322 500	1175	2750	7 562 500	2775
1200	1 440 000	1225	2800	7 840 000	2825
1250	1 562 500	1275	2850	8 122 500	2875
1300	1 690 000	1325	2900	8 410 000	2925
1350	1 822 500	1375	2950	8 702 500	2975
1400	1 960 000	1425	3000	9 000 000	3025
1450	2 102 500	1475	3050	9 302 500	3075
1500	2 250 000	1525	3100	9 610 000	3125
1550	2 402 500	1575	3150	9 922 500	3175
1600	2 560 000	1625	3200	10 240 000	3225
1650	2 722 500	1675	3250	10 562 500	3275
1700	2 890 000	1725	3300	10 890 000	3325
1750	3 062 500	1775	3350	11 222 500	3375
1800	3 240 000	1825	3400	11 460 000	3425
1850	3 422 500	1875	3450	11 902 500	3475
1900	3 610 000	1925	3500	12 250 000	3525
1950	3 802 500	1975	3550	12 602 500	3575
2000	4 000 000	2025	3600	12 960 000	3625
2050	4 202 500	2075	3650	13 322 500	3675
2100	4 410 000	2125	3700	13 690 000	3725
2150	4 622 500	2175	3750	14 062 500	3775
2200	4 840 000	2225	3800	14 440 000	3825
2250	5 062 500	2275	3850	14 822 500	3875
2300	5 290 000	2325	3900	15 210 000	3925
2350	5 522 500	2375	3950	15 602 500	3975
2400	5 760 000	2425	4000	16 000 000	
2450	6 002 500	2475			
2500	6 250 000	2525			
2550	6 502 500	2575			

154. RATIO OF AIR DENSITY AT ANY ALTITUDE TO DENSITY ON THE GROUND.

$$H = e^{-0.03158\ y}$$

where:

H = relative air density

e = 2.7818

y = altitude in thousands of feet

Altitude (y)	Relative air density (H)
0	1.000
2	0.939
4	0.881
6	0.827
8	0.777
10	0.729
12	0.685
14	0.643
16	0.603
18	0.566
20	0.532
22	0.500
24	0.469
26	0.440
28	0.413
30	0.388
32	0.364
34	0.342
36	0.321
38	0.301
40	0.283

DATA

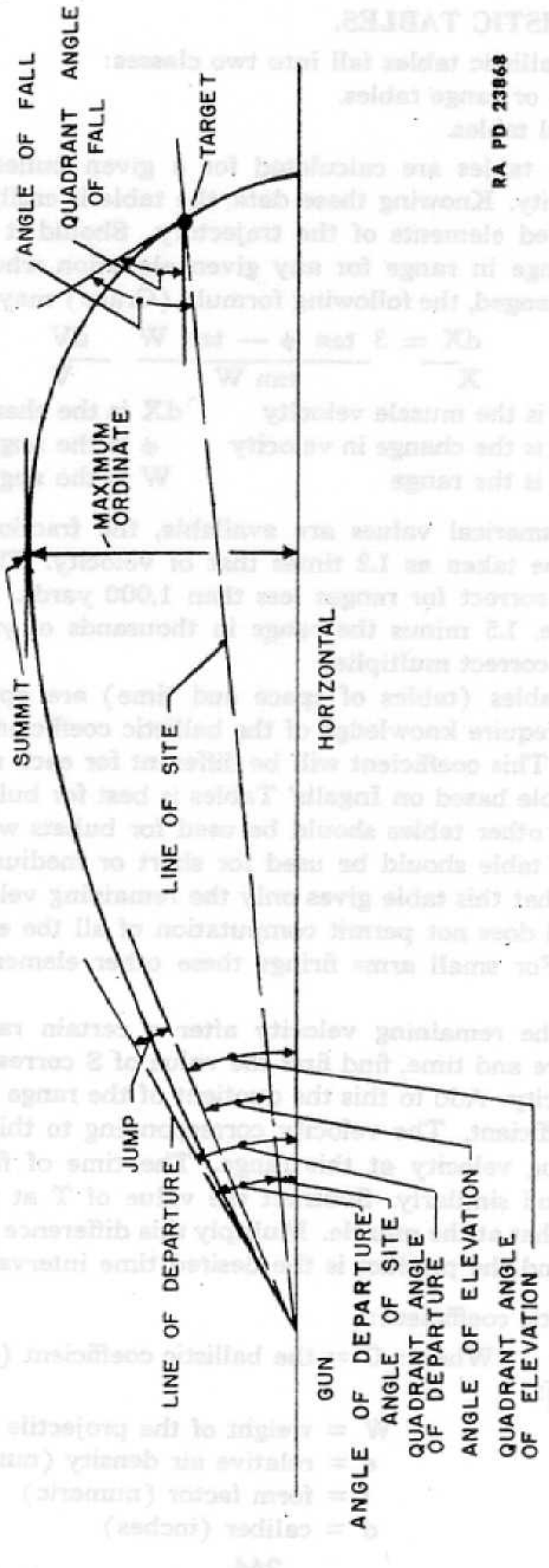


Figure 145—Projectile Trajectory and Pertaining Nomenclature

155. BALLISTIC TABLES.

Exterior ballistic tables fall into two classes:

a. Special or range tables.

b. General tables.

The range tables are calculated for a given bullet and a given muzzle velocity. Knowing these data, the table is easily used in finding the desired elements of the trajectory. Should it be desired to find the change in range for any given elevation when the muzzle velocity is changed, the following formula (Cranz) may be used:

$$\frac{dX}{X} = 3\,\frac{\tan\phi - \tan W}{\tan W}\,\frac{dV}{V}$$

Where: V is the muzzle velocity; dV is the change in velocity; X is the range; dX is the change in range; ϕ is the angle of elevation; W is the angle of fall

When no numerical values are available, the fractional change in range may be taken as 1.2 times that of velocity. This will be approximately correct for ranges less than 1,000 yards. For somewhat greater range, 1.5 minus the range in thousands of yards will be a more nearly correct multiplier.

General tables (tables of space and time) are applicable to all bullets, but require knowledge of the ballistic coefficient of the bullet in question. This coefficient will be different for each reference function. The table based on Ingalls' Tables is best for bullets with blunt heads, while other tables should be used for bullets with sharp, long heads. This table should be used for short or medium ranges only. It is noted that this table gives only the remaining velocity and time of flight, and does not permit computation of all the elements of the trajectory. For small arms firings these other elements are seldom required.

To find the remaining velocity after a certain range, using the table of space and time, find first the value of S corresponding to the muzzle velocity. Add to this the quotient of the range divided by the ballistic coefficient. The velocity corresponding to this value of S is the remaining velocity at this range. The time of flight over that range is found similarly. Subtract the value of T at the end of the range from that at the muzzle. Multiply this difference by the ballistic coefficient and the product is the desired time interval.

The ballistic coefficient:

$$C = \frac{W}{eid^2}$$

Where: C = the ballistic coefficient (1 lb per sq in.)

W = weight of the projectile (pound)

e = relative air density (numeric)

i = form factor (numeric)

d = caliber (inches)

156. SPACE AND TIME TABLE (BASED ON INGALLS' TABLES).

$$X = C\ S(Vr) - T(Vm)$$

$$t = C\ T(Vr) - T(Vm) - \cos\phi$$

V	S	Dif	T	Dif	V	S	Dif	T	Dif
4500	251	77	0.442	52	3000	1570	101	1.522	103
4400	328	78	0.494	54	2900	1671	104	1.625	109
4300	406	80	0.548	56	2800	1775	105	1.734	115
4200	486	81	0.604	59	2700	1880	107	1.849	121
4100	567	83	0.663	62	2600	1987	110	1.970	130
4000	650	85	0.725	64	2500	2097	113	2.100	139
3900	735	86	0.789	66	2400	2210	117	2.239	149
3800	821	88	0.855	71	2300	2327	120	2.388	160
3700	909	91	0.926	74	2200	2447	124	2.548	173
3600	1000	90	1.000	77	2100	2571	128	2.721	188
3500	1090	93	1.077	81	2000	2699	133	2.909	205
3400	1183	94	1.158	85	1900	2832	138	3.114	224
3300	1277	96	1.243	88	1800	2970	144	3.338	248
3200	1373	98	1.331	93	1700	3114	154	3.586	279
3100	1471	99	1.424	98	1600	3268	163	3.865	317
					1500		175	4.182	362
					1400	3606		4.544	

C = ballistic coefficient (lb per sq in.)
(referred to the Gavre function; i.e., Cg)

V = velocity (ft per sec)

t = time of flight (second)

ϕ = angle of elevation

X = range (yards)

157. RANGE TABLE: CARTRIDGE, BALL, CAL. .30, M2.

Muzzle velocity—2,700 feet per second

Range yards	Angles of elevation mils	Angle of fall mils	Time of flight seconds	Maximum ordinate feet	Remaining velocity feet per second
100	.7	1	.12	0	2490
200	1.5	2	.25	0	2290
300	2.4	3	.38	1	2090
400	3.4	4	.53	1	1890
500	4.6	6	.70	2	1700
600	6.0	9	.89	3	1530
700	7.7	12	1.11	5	1360
800	9.6	17	1.35	7	1220
900	11.9	22	1.62	11	1100
1000	14.6	28	1.91	15	1030

158. RANGE TABLE: CARTRIDGE, CARBINE, CAL. .30, M1.

Muzzle velocity—1,975 feet per second

$C = 0.179\ (G_1)$

Range yards	Elevation mils	Angle of fall mills	Time of flight, seconds	Terminal velocity feet per second
0	0.0	0.0	0.00	1974
100	1.5	1.7	0.17	1580
200	3.5	4.8	0.38	1265
300	6.2	9.4	0.64	1062
400	9.7	15.6	0.94	946
500	14.0	23.5	1.28	865

159. RANGE TABLE: CARTRIDGE, BALL, CAL. .45, M1911.

Muzzle velocity—920 feet per second

Range yards	Angle of elevation mils	Remaining velocity feet per second
25	2	894
50	3	871
75	5	850
100	6	831
125	8	814
150	10	798

160. RANGE TABLE: CARTRIDGE, BALL, CAL. .50, M2, AND CARTRIDGE, ARMOR-PIERCING, CAL. .50, M2.

Muzzle velocity—2,935 feet per second

Range yards	Angle of elevation mils	Angle of fall mils	Time of flight seconds	Maximum ordinate feet	Remaining velocity feet per second
100	.6	.7	.11		2680
200	1.3	1.5	.22		2560
300	2.0	2.3	.34		2440
400	2.8	3.3	.47		2320
500	3.7	4.4	.60		2210
600	4.6	5.6	.74	1	2100
700	5.6	7.0	.89	1	1990
800	6.6	8.6	1.04	1	1880
900	7.7	10.4	1.20	2	1780
1000	8.9	12.4	1.38	2	1680
1100	10.2	14.7	1.57	3	1590
1200	11.6	17.4	1.76	4	1500
1300	13.1	20.5	1.96	5	1420
1400	14.8	24.1	2.18	6	1340
1500	16.6	28.2	2.41	8	1270
1600	18.5	32.8	2.66	10	1200
1700	20.6	37.8	2.92	12	1140
1800	22.9	43.3	3.18	14	1090
1900	25.4	49.2	3.45	16	1060
2000	28.1	55.5	3.74	19	1030
7200	581.3	1060.8	36.13	1500	560
7275	676.1	1151.8	40.24		570

Section VIII

REFERENCES

	Paragraph
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Explanatory publications	162

161. STANDARD NOMENCLATURE LISTS.

a. **Ammunition:**

Ammunition, fixed and semifixed, all types, including subcaliber for pack, light and medium field artillery, including complete round data . . SNL R-1

Ammunition, revolver, automatic pistol, and submachine gun . . . SNL T-2

Ammunition, rifle, carbine, and automatic gun . . SNL T-1

Ammunition, trench mortar, including fuzes, propelling charges, and other components . . . SNL R-4

Grenades, hand and rifle, and fuzing components . . . SNL S-4

Firing tables and trajectory charts . . . SNL F-69

Packing materials used by field service for small arms service ammunition . . . SNL T-5

Pyrotechnics, military, all types . . . SNL S-5

Rockets, all types, and components . . . SNL S-9

Shells, shotgun . . . SNL T-3

b. Bayonets and their scabbards . . . SNL B-8

c. Carbine, cal. .30, M1 and M1A1 . . . SNL B-28

d. Cart, hand (M3, M3A4, M4, M4A1, M5, M5A1, M6, and M6A1) . . . SNL A-42

e. Gun, automatic, 20-mm, M1 and AN-M2 (aircraft) . . . SNL A-47

f. **Machine guns:**

Gun, machine, cal. .30, Browning, M1917 and M1917A; and mounts . . . SNL A-5

Gun, machine, cal. .30, Browning, M1919A4, fixed and flexible; M1919A5, fixed; and M1919A6, flexible; and ground mounts . . . SNL A-6

REFERENCES

Gun, machine, cal. .30, Browning, M2, aircraft, fixed, flexible, and flexible with fixed back plate .... SNL A-28
Gun, machine, cal. .50, Browning, heavy barrel, fixed and flexible; and ground mounts...... SNL A-39
Gun, machine, cal. .50, Browning, M2, heavy barrel, turret type .... SNL A-59
Gun, machine, cal. .50, Browning, M2, water-cooled, fixed (Navy); and aircraft, basic (for Navy use only) .... SNL A-36
Gun, machine, cal. .50, Browning, M2, water-cooled, flexible; and mounts .... SNL A-37
Trainer, machine gun, A.A., M9 .... SNL A-56
Trainer, machine gun (M3, M4, and M5) (caliber .22) .... SNL A-48

g. **Launchers:**

Launcher, grenade, M1, M2, M7, and M8 ..... SNL B-39
Launcher, rocket, A.T., 2.36-in., M1 and M1A1 . SNL B-36

h. **Mortars:**

Mortar and mount, 60-mm, M2 .... SNL A-43
Mortar and mount, 81-mm, M1 .... SNL A-33

i. Mounts, small arms, for motor vehicles .... SNL A-55

j. Pistol, automatic, cal. .45, M1911 and M1911A1 SNL B-6

k. **Projectors, pyrotechnic:**

Discharger, pyrotechnic, AN-M5; and controller, remote, M2 .... SNL B-34
Pistol, pyrotechnic, M2 .... SNL B-18
Pistol, pyrotechnic, with mount, AN-M8 .... SNL B-33
Pistol, Very, 10-gage, Mk. III and M5 .... SNL B-23
Projector, signal, ground, M1 (with support) .. SNL B-19
Projector, signal, ground, M1A1 (with support) SNL B-40
Projector, signal, ground, M3 and M4 .... SNL B-24
Projector, pyrotechnic, hand, M9 .... SNL B-38

l. Revolver, Colt, cal. .45, M1917; and revolver, Smith & Wesson, cal. .45, M1917 .... SNL B-7

m. **Rifles:**

Rifle, automatic, cal. .30, Browning, M1918 and M1918A2 .... SNL A-4
Rifle, U. S., cal. .22, M1922, M1922M1, and M2 SNL B-17

Rifle, cal. .22 (commercial) .... SNL B-25
Rifle, U. S., cal. .30, M1 .... SNL B-21
Rifle, U. S., cal. .30, M1903, M1903A1, M1903A3, and M1903A4 (Sniper's) .... SNL B-3
Rifle, U. S., cal. .30, M1917 .... SNL B-4

n. Shotguns .... SNL B-9

o. **Submachine guns:**
Gun, submachine, cal. .45, M3 .... SNL A-58
Gun, submachine, cal. .45, Thompson, M1928A1, M1, and M1A1 .... SNL A-32

p. Targets and target equipment; small arms .... SNL L-1

Current Standard Nomenclature Lists are as tabulated here. An up-to-date list of SNL's is maintained as the "Ordnance Publications for Supply Index," now published in .... OFSB 1-1

162. EXPLANATORY PUBLICATIONS.

a. **Ammunition:**
Ammunition condition report .... O.O. 7235
Ammunition, general .... TM 9-1900
Grenades (in preparation) .... TM 9-1985
Grenades .... FM 23-30
Instruction guide: Military explosives .... TM 9-2900
Military pyrotechnics .... TM 9-981
Range regulations for firing ammunition for training and target practice .... AR 750-10
Small arms ammunition .... OFSB 3-5
Small arms ammunition .... TM 9-1990

b. **Automatic guns:**
Ordnance maintenance: 20-mm automatic gun M1 and 20-mm aircraft automatic gun AN-M2 .... TM 9-1227
20-mm automatic gun M1, and 20-mm aircraft automatic gun AN-M2 .... TM 9-227

c. Bayonet, M1905 .... FM 23-25

d. **Carbine, cal. .30, M1 and M1A1:**
Ordnance maintenance: U. S. carbine, cal. .30, M1 and M1A1 .... TM 9-1276
U. S. carbine, cal. .30, M1 .... FM 23-7

REFERENCES

e. Launcher, rocket, A.T. 2.36-in., M1A1 .... TM 9-294

f. **Machine guns:**

Antiaircraft machine gun trainer M9 .... TM 9-221

Browning machine gun, cal. .30, HB, M1919A4 (mounted in combat vehicles) .... FM 23-50

Browning machine gun, cal. .30, M1919A6 .... TM 9-206

Browning machine gun, cal. .30, M1917 .... FM 23-55

Browning machine gun, cal. .30, M2, aircraft—fixed and flexible .... TM 9-205

Browning machine gun, cal. .50, HB, M2, ground FM 23-60

Browning machine gun, cal. .50, HB, M2 (mounted in combat vehicles) .... FM 23-65

Browning machine gun, cal. .50, M2, aircraft—fixed and flexible .... TM 9-225

Browning machine gun, cal. .50, M2, water-cooled, and mounts .... TM 9-226

Ordnance maintenance: Antiaircraft machine gun trainer M9 .... TM 9-1221

Ordnance maintenance: Browning machine gun, cal. .30, all types; U. S. machine gun, cal. .22, and trainer, cal. .22 .... TM 9-1205

Ordnance maintenance: Browning machine guns, cal. .50, all types .... TM 9-1225

g. **Miscellaneous:**

Coast artillery field manual .... FM 4-135

Instruction guide: Small arms accidents, malfunctions, and their causes .... TM 9-2210

Ordnance safety manual .... O.O. 7224

Qualification in arms and ammunition training allowances .... AR 775-10

h. **Mounts:**

Mount, tripod, machine gun, cal. .50, M3 .... OFSC 42

Machine gun mounts for trucks .... TM 9-224

Machine gun mounts for boats .... TM 9-230

i. **Pistols:**

Automatic pistol, cal. .45, M1911 and M1911A1 FM 23-35

Ordnance maintenance: Pistols and revolvers .... TM 9-1295

j. **Projectors, pyrotechnic:**

Ordnance maintenance: Pyrotechnic projectors, all types .... TM 9-1290

Pyrotechnic projectors, all types .... TM 9-290

k. **Rifles:**

Browning automatic rifle, cal. .30, M1918, without bipod .... FM 23-20

Browning automatic rifle, cal. .30, M1918A2, with bipod .... FM 23-15

Ordnance maintenance: Browning automatic rifle, cal. .30, all types .... TM 9-1211

Ordnance maintenance: Rifles, U. S., cal. .30, M1903 and M1903A1 .... TM 9-1270

Ordnance maintenance: U. S. rifle, cal. .22, M1922, M1922M1 and M2 .... TM 9-1280

Ordnance maintenance: U. S. rifle, cal. .30, M1 . TM 9-1275

U. S. rifle, cal. .22, M1922, M1922M1 and M2 .. TM 9-280

U. S. rifle, cal. .30, M1 .... FM 23-5

U. S. rifle, cal. .30, M1903 .... FM 23-10

U. S. rifle, cal. .30, M1903A4 (sniper's) .... TM 9-270

U. S. rifle, cal. .30, M1917 (Enfield) .... FM 23-6

l. Revolver, Colt, cal. .45, M1917, and revolver, Smith & Wesson, cal. .45, M1917 .... FM 23-36

m. **Shotguns:**

Ordnance maintenance: Shotguns, all types .... TM 9-1285

shotguns, all types .... TM 9-285

n. **Submachine guns:**

Ordnance maintenance: Thompson submachine gun, cal. .45, M1928A1 .... TM 9-1215

Submachine gun, cal. .45, M3 .... TM 9-217

Thompson submachine gun, cal. .45, M1 .... FM 23-41

Thompson submachine gun, cal. .45, M1 (M1A1) .... TM 9-215

Thompson submachine gun, cal. .45, M1928A1 . FM 23-40

o. Targets, target materials, and rifle range construction .... TM 9-855

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